

WB/M1/82/2 Vol. 3

BRITISH GEOLOGICAL SURVEY
MARINE GEOLOGY RESEARCH PROGRAMME

MARINE REPORT 82/2

COMMERCIAL IN CONFIDENCE

GEOLOGICAL RESULTS OF BOREHOLES DRILLED ON
THE SOUTHERN UNITED KINGDOM CONTINENTAL SHELF
BY THE INSTITUTE OF GEOLOGICAL SCIENCES

1969 - 1982

M. Parkin and A. Crosby

Vol 3 of 3

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June 1986

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**BOREHOLES ON THE SOUTHERN CONTINENTAL SHELF,
INCLUDING SOUTH WEST APPROACHES AND
ENGLISH CHANNEL**

1 : 250,000 GEOLOGY MAPS

**COCKBURN BANK
SCILLY
LIZARD
GUERNSEY
LANDS END
PORTLAND
WIGHT**

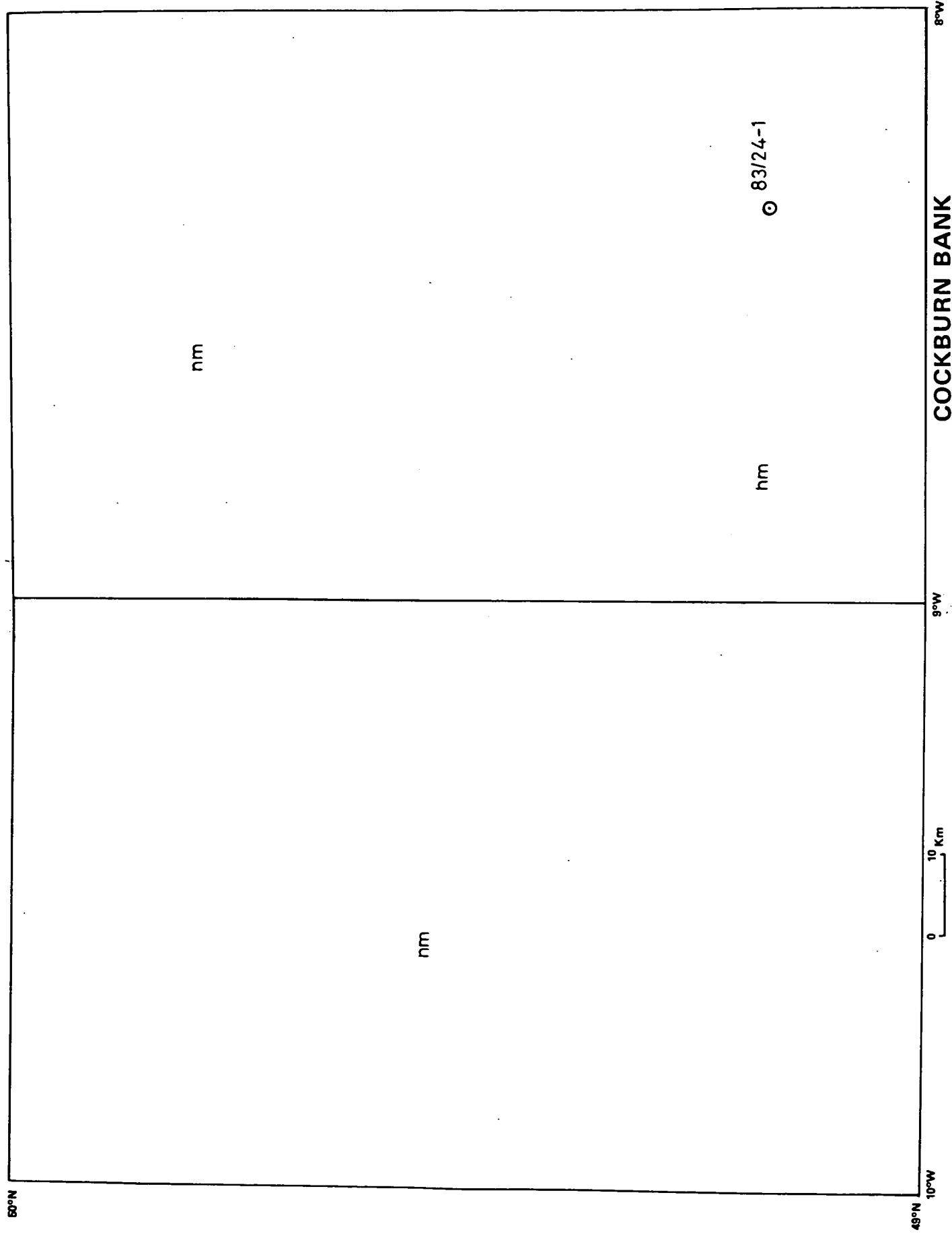
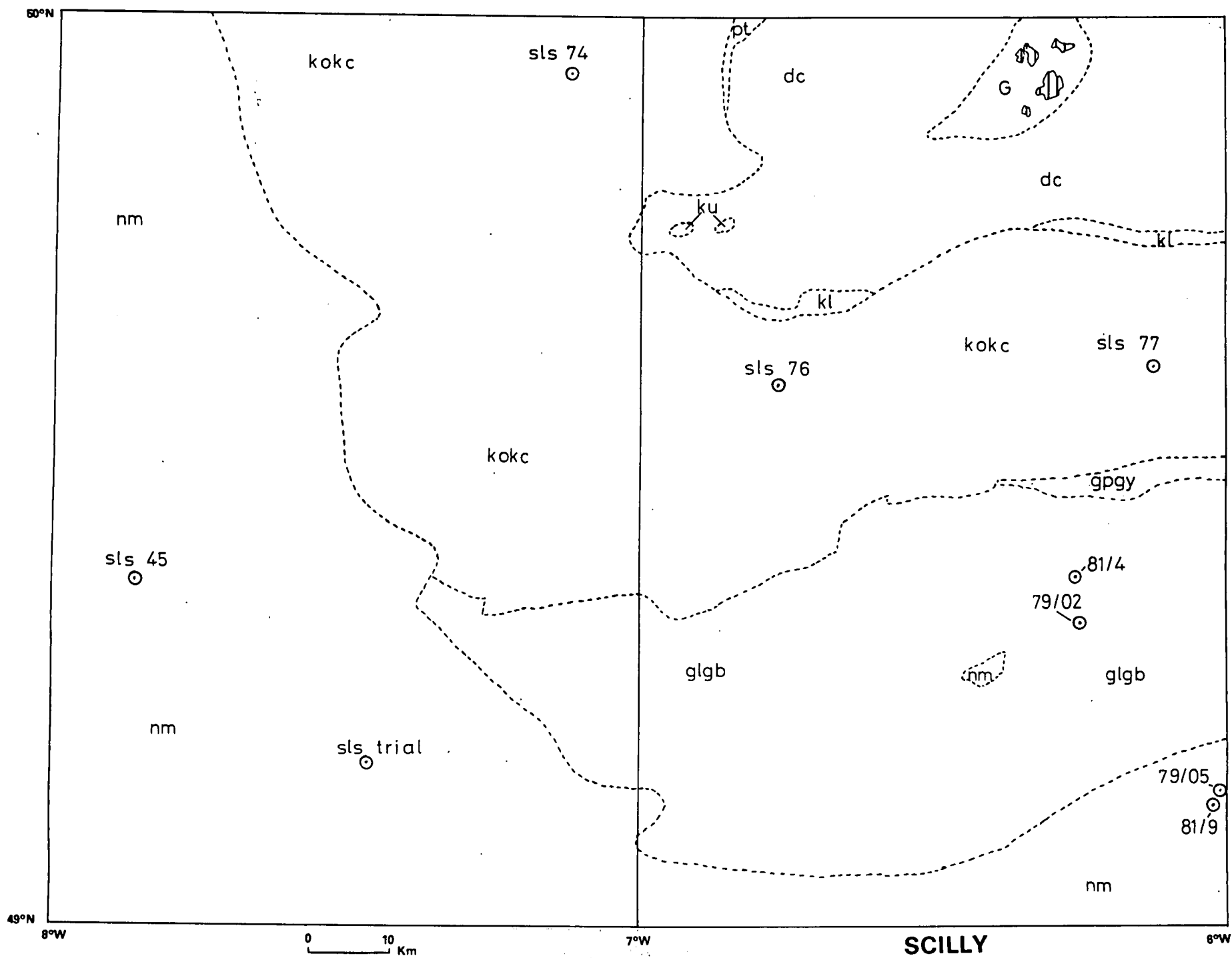


fig 12





Borehole No	83 / 24 - 1	Area	COCKBURN BANK	Block No	83/24
Latitude	49° 10.35 N	I.G.S. regd No 49/09/42			
Longitude	8° 20.34 W	Water Depth	136 m	Rig	ZEPHYR
Other Position Fixing Methods	Objectives stratigraphic				
		Spud Date	29.8.77	Completion Date	16.9.77
		Status	Completed	Final Depth bs.b.	1044 m

Stratigraphy		Depth Drilled below K.B.	Graphic Log	Well: 83/24-1	Casing	Electrical Log Suites	Remarks
		ft m		Position: 49°10',35.1"N 08°20',34.3"W			
		0 K.B. 0		Lithological description			
		Mean 25 Sea Level					
		100					
		Sea bed 161			30"		
NEOGENE	Miocene	200 First returns 213		CLAY, green-white, calcareous, glauconitic, carbonaceous, fossiliferous.	200m		
PALAEOGENE	Oligocene?-Eocene	249		SANDSTONE, pale green-brown, fine grained, carbonaceous, glauconitic.		IES CNL/FDC/GR/CAL	Disconformity?
	Paleocene	300 1000		LIMESTONE, white to yellow or brown, firm to hard, some parts glauconitic.			
CRETACEOUS	(Chalk) Upper	400 406		CLAY, dark grey to brown, soft.			Disconformity?
		431		CHALK, white, soft to firm, granular in part, fossiliferous.	13 3/4"		
				FLINTS	456m		
	Maastrichtian	500					
	Campanian						
	Santonian						
	Coniacian	600 2000					
	Turonian	657					
		700 720		CHALK, white to pale grey, glauconitic.			
	Cenomanian	800					
	Albian	806		LIMESTONE, grey, chalky, soft to firm.			
PERMO-TRIASSIC	?	853		CLAY, grey, soft, with lignite.			
	?	904		SANDSTONE, medium-coarse, with lignite.			
DEVONIAN-CARBONIFEROUS				MUDSTONE, red-brown, soft and			Unconformity
				SANDSTONE, red-brown, medium-coarse grained.			Unconformity
				SANDSTONE, (GRIT), dark grey to black, medium-coarse grained.			
				SLATE, dark grey and red-brown.			
				T.D. 1044 m (Loggers depth)			
				Spud date 29.8.77			
				T.D.reached 16.9.77			

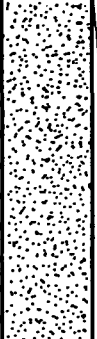
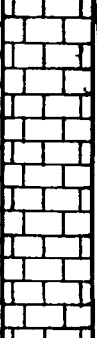


fig 13



Borehole No		SLS TRIAL Area		SCILLY		Block No		84-28	
Latitude		49° 10.73 N		I.G.S		regd No		49/08/21	
Longitude		07° 27.86 W		Water Depth		137 - 140m		Rig SEALAB	
Other Position Fixing Methods				Objectives		Stratigraphic			
				Spud Date		22.6.75		Completion Date 23.6.75	
				Status Completed		Final Depth bs.b.		21.06m	

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
RECENT						SAND And GRAVEL			
NEOGENE - EARLY MIOCENE - BURDIGALIAN		10				MUDSTONE green-grey, silty, calcareous, with abundant foraminifera and bivalve fragments.			
		20				SANDSTONE, green grey, shelly.			
						MUDSTONE, green grey.			
						END OF BOREHOLE			
		30							
		40							
		50							

IGS 1284 1000 1/75

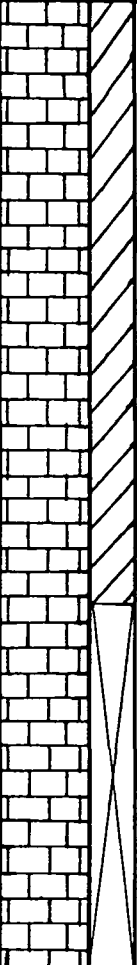
Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
T E R T I A R Y		50				<u>SAND</u> , green-grey, argillaceous calcareous with bivalve debris.			
		60							
C R E T A C E O U S (SANTONIAN - EARLY CAMPANIAN)		70							
		80				<u>CHALK</u> white, soft with flints.			
		90							
U P P E R		100							

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SUMMARISED BOREHOLE LOG

Ref.	Author
49/08/23	M. Parkin

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palæo	Lithological Description	Casing	Electric Logs	Remarks
U P P E R C R E T A C E O U S		100				<u>CHALK</u> white, soft with flints.			
		110							
		120							
		130				END OF BOREHOLE			
		140							
		150							

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SUMMARISED BOREHOLE LOG

Ref.	Author
<u>49/08/23</u>	<u>M. Parkin</u>

Borehole No	SLS 74	Area	S C I L L Y	Block No	84 - 5
Latitude	49° 56.16 N	I.G.S. regd No 49/08/24			
Longitude	7° 7.38 W	Water Depth	114 m	Rig	SEAAB
Other Position Fixing Methods	Objectives		Stratigraphic		
		Spud Date	9.8.76	Completion Date	10.8.76
		Status	Completed Final Depth bs.b. 88.0m		

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
C R E T A C E O U S		10 20 30 40 50				CHALK			Biostratigraphy: Age-indeterminate (55.5 m) Age Lower Cretaceous, Late Albian (67.85 m)
						LIMESTONE pale cream to grey, bioclastic algal.			

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
U P P E R C R E T A C E O U S		50				<u>LIMESTONE</u> , pale cream to grey, bioclastic algal.			
		60							
L O W E R C R E T A C E O U S		70				<u>GREENSAND</u> fossiliferous, grey- brown and green; coarsely grained, well cemented, glauconitic.			
		80				<u>CLAY</u> dk grey - brown, sandy, micaceous, carbonaceous. Late Albian			
		90				END OF BOREHOLE			Hole terminated due to caving.
		100							

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SUMMARISED BOREHOLE LOG

Ref.

Author

49/08/24

M. Parkin

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
LATE ALBIAN	C R E T A C E O U S	50				CHALK, white soft.			
		60							
		70							
		80							
		90							
						SANDSTONE, green - ochre, med - crs grained, glauconitic.			
		100				LIMESTONE, pale brown, bioclastic sandy.			
						END OF BOREHOLE			

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AREA SCILLY

SUMMARISED BOREHOLE LOG



Ref.	Author
49/57/227	M. PARKIN

Borehole No		SLS 77		Area		S C I L L Y		Block No		85 - 15	
Latitude						49° 36.96 N					
Longitude						6° 07.43 W					
Other Position Fixing Methods						I.C.S. regd No 49/07/228					
						Water Depth 101 - 106 m Rig SEALAB					
						Objectives Stratigraphic					
						Spud Date 12.8.76 Completion Date 13.8.76					
						Status Completed Final Depth bs.b. 50.0 m					

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
UPPER CRETACEOUS LOWER CAMPANIAN - UPPER SANTONIAN						Thin covering of gravel on seabed. (recent)			Biostratigraphy: Age - Upper Cretaceous, early Campanian (11, 50m)
		10							
		20							
		30							
		40							
		50							
						END OF BOREHOLE			

Borehole No	79/2	Area	SCILLY	Block No	85 - 19
Latitude	49° 20.08 N	I.C.S. regd No 49107/334			
Longitude	06° 15.04 W	Water Depth	107 m	Rig	SURVEYOR
Other Position Fixing Methods	Objectives Stratigraphic				
		Spud Date	Completion Date 30.7.79		
		Status Completed	Final Depth bs.b. 57 m		

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
BARTONIAN; EOCENE		10				Thin covering of sand & gravel (recent)			
						<u>SAND</u> , pale green-gray, glauconitic, medium-fine grained, well sorted, bioclastic.			
BARTONIAN; EOCENE		20							
LUTETIAN; EOCENE		40				<u>SAND</u> , as above with reworked nummulites Lst, green-gray, sandy, glauconitic, muddy, bioclastic with nummulitic horizons.			
		50							

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
LUTETIAN; Eocene		50				SAND, as above with re-worked nummulites Lst, grey-green, sandy glauconitic muddy bioclastic			
		60				END OF BOREHOLE			
		70							
		80							
		90							
		100							




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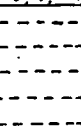
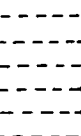
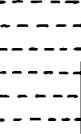
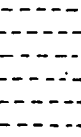
SUMMARISED BOREHOLE LOG

Ref.	Author
49/07/334	M. PARKIN

Borehole No 79/5		Area SCILLY		Block No 85-25	
Latitude 49° 08.80' N			I.G.S. regd No 49/07/335		
Longitude 6° 00.50' W			Water Depth 108 m Rig SURVEYOR		
Other Position Fixing Methods			Objectives Stratigraphic		
			Spud Date Completion Date 13.8.79		
			Status Completed Final Depth bs.b. 6.10 m		


Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
Recent				X		SAND , shelly, crs			
MIOCENE						SANDSTONE , green-grey, fine, hard, glauconitic, rich in bioclastic debris.			
									
						END OF BOREHOLE			
		10							
		20							
		30							
		40							
		50							

Borehole No	81 / 4	Area	SCILLY	Block No	85 - 19
Latitude	49° 23.13' N	I.G.S. regd No 49/07/336			
Longitude	06° 15.44' W	Water Depth	108 m	Rig	MARINER
Other Position Fixing Methods		Objectives Stratigraphic			
SAT NAV		Spud. Date 19.5.81 Completion Date 20.5.81			
Decca red C21.42 green E45.44 purple B60.13		Status Uncompleted Final Depth bs.b. 47.3 m			

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
RECENT						<u>SAND and GRAVEL</u>			Age - Quaternary / ? Quaternary or Palaeogene (surface - 4.2 m) Age - Holocene; ? Pleistocene or Palaeogene (surface - 4.2 m)
TERTIARY early - middle Eocene		10				<u>CLAY</u> , olive brown, bioturbated intertminated with sand. olive gray, fine, micaceous, glauconitic. Rare, bioclastic limestone beds.			
		20							
		30							
		40							
		50				END OF BOREHOLE			Hole terminated due to drilling

Borehole No		81 / 9		Area		S C I L L Y		Block No		85 - 30	
Latitude						49° 08' 46" N					
Longitude						06° 01' 03" W					
Other Position Fixing Methods						I.C.S. regd No 49 / 07 / 337					
Water Depth						113 m					
Rig						MARTINER					
Objectives						Stratigraphic					
S A T N A V						Spud Date 5.6.81 Completion Date 6.6.81					
Decca main chain						Status: Uncompleted Final Depth bs.b. 28.5 m					
Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks		
RECENT						GRAVEL and SAND					
TERTIARY MIOCENE		10				MUDSTONE, olive green, calcareous bioclastic, interbedded with silty, sandy partings (MIOCENE)					
		20				LIMESTONE, white - grey bioclastic, chalky.					
CRETACEOUS		30				END OF BOREHOLE			Hole abandoned due to bad weather.		
		40									
		50									

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
QUATERNARY HOLOCENE						Sand & Gravel			Coring the unconsolidated calcareous sand proved unrewarding and most of the recovery was obtained using a hammer sampler.
		10				Calcareous silt			
		20				Calcareous silt			
		30				Calcareous sand, very fine grained, glauconitic, slightly muddy.			
		40							
Middle Miocene		50				Calcareous sand, very fine grained, silty, glauconitic.			Micro Pal:

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
Middle Miocene		50				Calcareous sand, silty, glauconitic			
		60				Calcareous sand, very fine grained, small cemented nodules of sand.			
		70							
		80				78.1 m Total Depth.			Total core recovery 12.39 m (15.9%) Micro pal :
		90							
		100							

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AREA PARSON'S BANK

SUMMARISED BOREHOLE LOG

Ref.	Author
48/08/43	A. CROSBY

Borehole No 81/3A		Area PARSON'S BANK		Block No 74/2	
Latitude 48° 59' 51" N			IGS REG. NO. 48/08/44		
Longitude 7° 47' 83" W			Water Depth 142 m		Rig MARINER
Other Position Fixing Methods			Objectives Stratigraphic		
SAT. NAV / DECCA			Spud Date 13/5/81		Completion Date 14/5/81
			Status Completed Final Depth bs.b. 42.92 m.		

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
QUATERNARY HOLOCENE		0				Sandy Gravel, coarse shell sand, shell gravel, up to 50% poly mict. lithic gravel in fine to very coarse clean sandy matrix, poorly sorted.			
		10							
Early / Middle Miocene		15				Muddy sand/siltstone, very fine well sorted, silty sand, sandy silt, well sorted, highly calcareous olive grey, sparse microfauna, glauconitic.			M. PAL.
		20							M. PAL.
		25				Siltstone/silty sandstone, very fine grained with abundant forams.			M. PAL.
		30							M. PAL.
		35				Sandstone, fine grained, locally conglomeratic, silty, glauconitic, highly calcareous.			M. PAL.
		40				Sandstone, very fine grained, very muddy, silty, with 1% comminuted shell gravel, abundant sand (VF/F) grade shell.			M. PAL.
		42.92				Total Depth 42.92 m			M. PAL. Total Recovery: 22.65 m (52.8%)

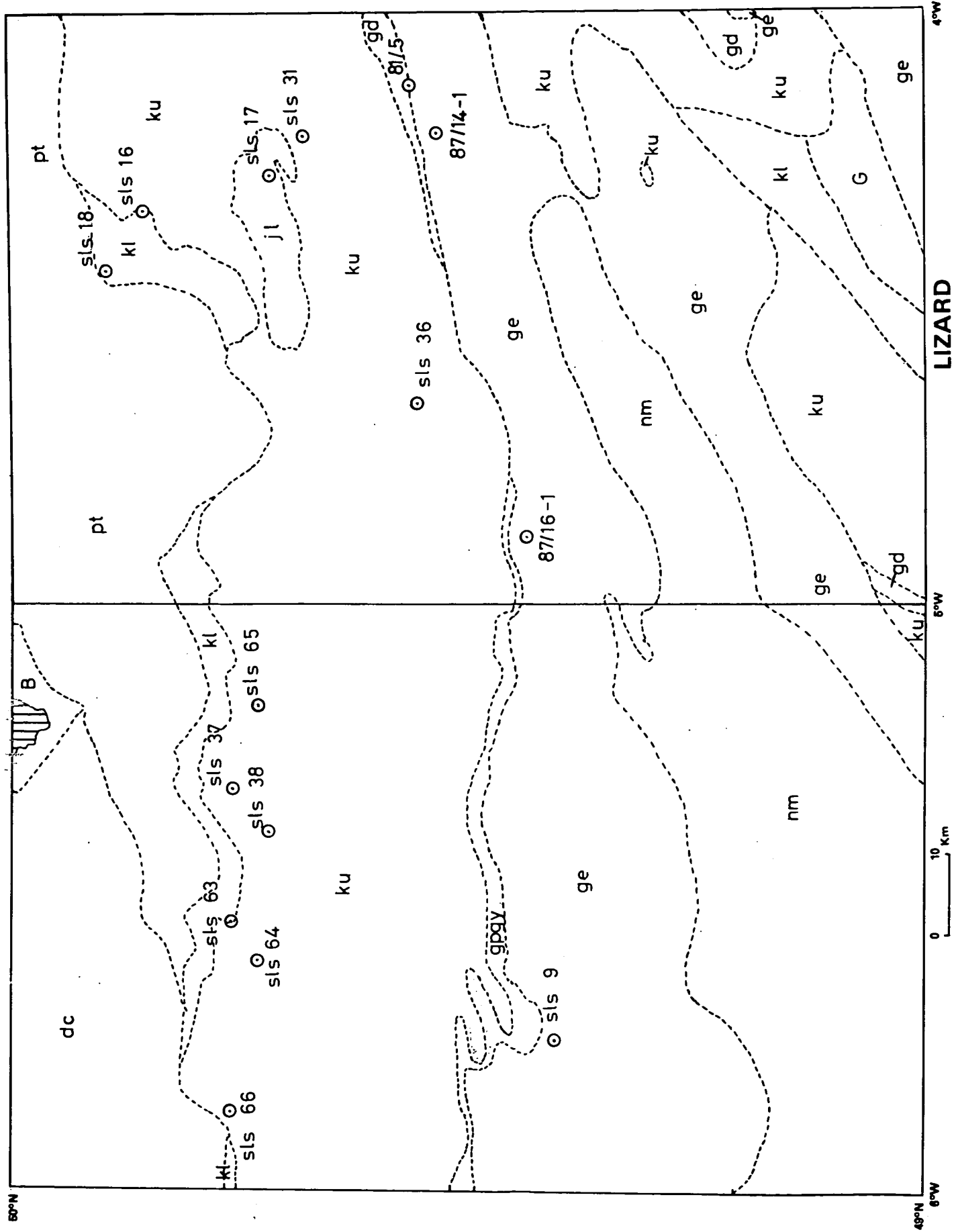












fig 14

Borehole No	SL5 9	Area	L I Z A R D	Block No	86 - 12
Latitude	49° 24.27' N	I.G.S. regd No 49/06/370			
Longitude	05° 44.62' W	Water Depth 104m - 110.6m Rig SEA LAB			
Other Position Fixing Methods			Objectives S t r a t i g r a p h i c		
		Spud Date 10.7.75 Completion Date 14.7.75			
		Status Completed Final Depth bs.b. 49.97m			

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
RECENT						<u>SAND and GRAVEL</u>			Biostatigraphy: Age - Palaeogene; early to middle Eocene
TERTIARY Early to Middle Eocene		10				<u>SAND, SILT and CLAY</u> green - grey, calcareous.			
		20							
		30							
		40							
		50				END OF BOREHOLE			

Borehole No	SLS 16	Area	L I Z A A R D	Block No	87 - 4
Latitude	49° 51.15 N	I.G.S regd No 49/05/440			
Longitude	04° 19.98 W	Water Depth 77m - 81m Rig SEA LAB			
Other Position Fixing Methods	Objectives Stratigraphic				
	Spud Date 24.6.75 Completion Date 28.6.75				
	Status Uncompleted Final Depth bs.b. 44.50m				


Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
RECENT						<u>GRAVEL</u> with <u>SAND</u>			Biostratigraphy: Age - Lower Cretaceous; Late Neocomian to early Albian
PLEISTOCENE OR TERTIARY		10				<u>QUARTZ GRAVEL</u> calcareous, cemented.			
		20							
		30				<u>MUDSTONE</u> grey with carbonaceous fragments.			
		40				<u>QUARTZ SAND</u> , fine - coarse with traces of lignite			Hole Abandoned due to drilling difficulties
		50				END OF BOREHOLE			

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
RHAE TIAN - SINEMURIAN		50				<u>MUDSTONE</u> grey to brownish grey, locally fossiliferous; interbedded with grey to dark grey argillaceous <u>LIMESTONE</u>			HOLE ABANDONED DUE TO DRILLING DIFFICULTIES
		60							
		80				END OF BOREHOLE			
		90							
		100							

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 AREA L I Z A R D
 SUMMARISED BOREHOLE LOG
 Ref. 49/05/441 Author M. Parkin

Borehole No	S 45 18	Area	L I Z A R D	Block No	87 - 3
Latitude	49° 53 . 70 N	I.G.S. regd No 49/05/444			
Longitude	04° 26 . 09 W	Water Depth 75.5 - 80.5m Rig SEA LAB			
Other Position Fixing Methods	Objectives		S T R A T I G R A P H I C		
Spud. Date		. 75		Completion Date . 75	
Status: Completed		Final Depth bs.b.		45m	

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
T E R T I A R Y ?		10				<u>MUDSTONE</u> mottled red, purple, cream, grey; sandstones and pebbly sands.			Biostratigraphy: Age - Indeterminate
		20							
PERMIAN/TRIASSIC		30				<u>MUDSTONE</u> red - brown			
		40							
		50				END OF BOREHOLE			

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
Pliensbachian to Lower Toarcian JURASSIC	LIAS	50				CHALK, white with flints			
		60							
		70							
Camomian		80				SANDSTONE white to pale grey			
		90				MUDSTONE Brown to grey with limestone bands.			
		100							

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AREA LIZARD

SUMMARISED BOREHOLE LOG

Ref.

Author

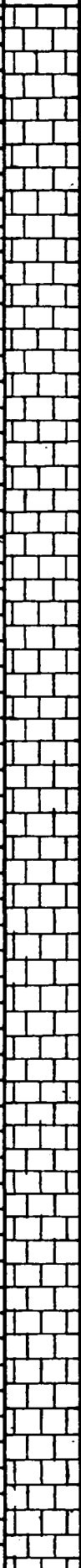
49/05/447

M. Parkin

1GS 1284 1000 1/75

Borehole No		525 36 D		Area		L I Z A R D		Block No		87 - 12	
Latitude		49° 33.40 N		I.G.S		regd No		49/05/449			
Longitude		4° 39.62 W		Water Depth		92.50 m		Rig		SEA LAB	
Other Position Fixing Methods				Objectives		Stratigraphic					
				Spud Date		14.7.76		Completion Date		18.7.76	
				Status		Completed		Final Depth bs.b.		179 m	

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
U P P E R (CAMPANIAN) C R E T A C E O U S		0							Biostratigraphy: Age - Upper Cretaceous, Campanian (1725-1792)
		1							
		2							
		3							
		4							
		5							
		6							
		7							
		8							
		9							
		10							
		20				CHALK white with flints			
		30							
		40							
		50							

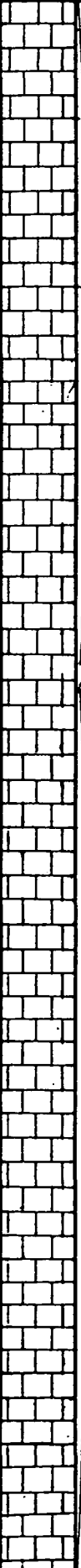
Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
UPPER CRETACEOUS (CAMPAIAN)		50				<u>CHALK</u> white with flints			
		60							
		70							
		80							
		90							
		100							

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AREA L I Z A R D

SUMMARISED BOREHOLE LOG

Ref.	Author
49/05/449	M. Parkin

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palæo	Lithological Description	Casing	Electric Logs	Remarks
U P P E R C R E T A C E O U S (CAMPANIAN)		100							
		110							
		120							
		130							
		140							
		150							

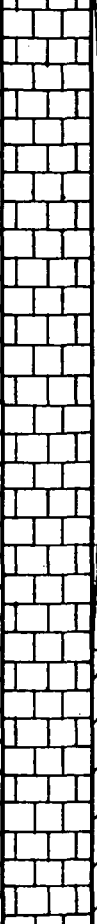
CHALK
white with flints.

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SUMMARISED BOREHOLE LOG

Ref.	Author
49/05/449	M. Parkin

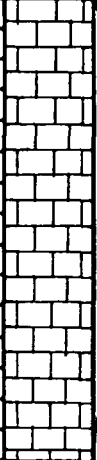
Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
UPPER CRETACEOUS (CAMPAIAN)		150				<u>CHALK</u> white with flints			
		160							
		170							
		180				END OF BOREHOLE			
		190							
		200							

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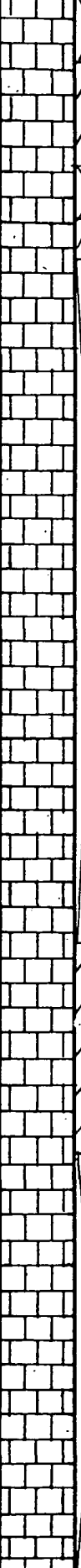

SUMMARISED BOREHOLE LOG

Ref.	Author
<u>49/05/449</u>	<u>M. Parkin</u>

Borehole No		SL5 37		Area		L I Z A R D		Block No		86 - 9	
Latitude						49° 45 . 44 N					
Longitude						5° 18 . 96 W					
Other Position Fixing Methods						I.G.S regd No 49/06/376					
						Water Depth 89 m Rig SEA LAB					
						Objectives Stratigraphic					
						Spud Date 23.7.76 Completion Date 24.7.76					
						Status Uncompleted Final Depth bs.b. 15 m					
Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks		
UPPER CRETACEOUS		10				CHALK. white with flints.			Hole abandoned due to lack of progress		
		20				END OF BOREHOLE					
		30									
		40									
		50									

Borehole No	SLS 38	Area	L I Z A R D	Block No	86 - 9
Latitude	49° 43.09 N	I.G.S regd No 49°/06/373			
Longitude	5° 23.40 W	Water Depth 89 - 91.4 m Rig SEA LAB			
Other Position Fixing Methods	Objectives Stratigraphic				
	Spud Date 16.6.76 Completion Date 18.6.76				
	Status Completed Final Depth bs.b. 126.10 m				

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
UPPER CRETACEOUS (MIDDLE TURONIAN TO CONIACIAN)		10 20 30 40 50				CHALK white to cream, with flints. (Middle Turonian to Coniacian)			

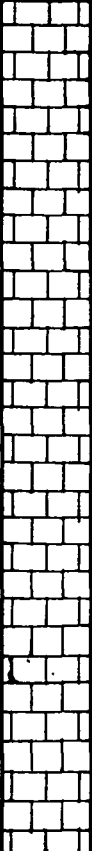
Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
U P P E R C R E T A C E O U S		50				<u>CHALK</u> white to Cream, with flints. (Middle Turonian to Coniacian)			
		60							
		70							
		80							
		90							
		100							

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SUMMARISED BOREHOLE LOG

Ref.	Author
49/56/373	M. Parkin

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
UPPER CRETACEOUS		100				<u>CHALK</u> white to cream, with flints. (Middle Turonian to Coniacian)			
		110							
		120							
		130				END OF BOREHOLE			
		140							
		150							

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SUMMARISED BOREHOLE LOG

Ref.

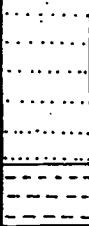

Author

49/06/373

M. Parkin

Borehole No	SLS 63	Area	LIZARD	Block No	86 - 8
Latitude	49° 46.54 N	I.G.S. regd No 49/06/378			
Longitude	5° 32.50 W	Water Depth	90 m	Rig	SEA LAB
Other Position Fixing Methods		Objectives Stratigraphic			
		Spud Date 26.7.76 Completion Date 27.7.76			
		Status Uncompleted Final Depth bs.b. 56 m			

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
LOWER CRETACEOUS						<p><u>SANDSTONE,</u></p> <p>light gray, medium to coarse grained.</p>			

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
LOWER CRETACEOUS		50				SANDSTONE, light grey, medium to coarse			Hole Abandoned due to twist off and core barrel lost.
						CLAY, grey			
						END OF BOREHOLE			
		60							
		70							
		80							
		90							
		100							

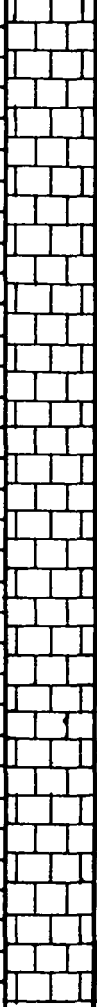

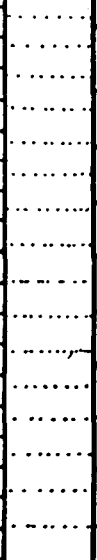

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AREA L I Z A R D

SUMMARISED BOREHOLE LOG

Ref.	Author
49/56/378	M. Parkin

Borehole No	SLS 64	Area	L I Z A A D	Block No	86 - 8
Latitude	49° 43.81 N	I.G.S. regd No 49/06/375			
Longitude	5° 36.51 W	Water Depth 88.4 - 91 m Rig SEA LAB			
Other Position Fixing Methods	Objectives Stratigraphic				
Spud Date 23.6.76 Completion Date 24.6.76					
Status Completed Final Depth bs.b. 101 m					

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
UPPER CRETACEOUS (TORONIAN)		10				CHALK grey - white with flints			Biostratigraphy: Age - Lower Cretaceous; late Albian (38-39.25m) Age - Lower Cretaceous; Aptian to early Albian (101m)
		20							
LOWER CRETACEOUS ALBIAN		30				SANDSTONE, light grey to green, sands and clay.			
		40							
		50							

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
LOWER CRETACEOUS ALBIAN		50				<u>SANDSTONE</u> , light gray to green sands and clay.			
		60							
		65				<u>LIMESTONE</u> , pale gray, white & brown, glauconitic.			
		70							
		80				<u>SANDSTONE</u> And <u>SAND</u> pale gray and green, argillaceous at base.			
		90							
		100							
						END OF BOREHOLE			

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AREA LIZARD

SUMMARISED BOREHOLE LOG

Ref.

Author

49/56/375

M. Parkin

Borehole No	SLS 65	Area	LIZARD	Block No	86 - 10
Latitude	49° 43.74 N	I.G.S. regd. No. 49/56/374			
Longitude	5° 10.48 W	Water Depth	89 m	Rig	SEA LAB
Other Position Fixing Methods		Objectives Stratigraphic			
		Spud Date 19.6.76 Completion Date 22.6.76			
		Status Uncompleted Final Depth bs.b. 116 m			

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
UPPER CRETACEOUS		10				CHALK white with flints.			
		20							
		30							
		40							
		50							

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palæo	Lithological Description	Casing	Electric Logs	Remarks
U P P E R C R E T A C E O U S		50				CHALK, white with flints			
		60							
		70							
		80							
		90							
		100							

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AREA L I Z A R D

SUMMARISED BOREHOLE LOG

Ref.	Author
49/06/374	M. Parkin

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
UPPER CRETACEOUS		100				<u>CHALK</u> white with flints			Hole abandoned Rock roller disintegrated down hole and prevented further coring.
		110							
		120							
		130							
		140							
		150							

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AREA L I Z A R D

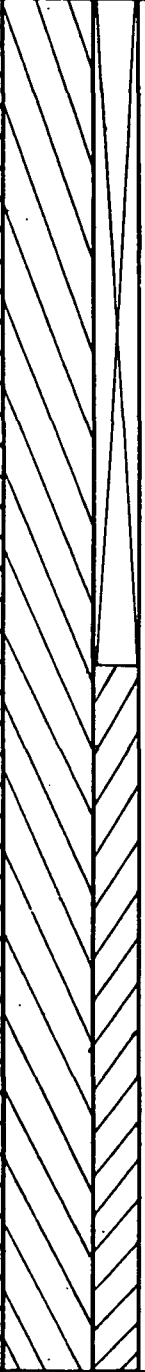
SUMMARISED BOREHOLE LOG

Ref.	Author
<u>49/06/374</u>	<u>M. Parkin</u>

Borehole No	SLS 66A	Area	L I Z A R D	Block No	86 - 6
Latitude	49° 45.50 N	I.G.S. regd No 49/06/377			
Longitude	5° 52.03 W	Water Depth	92 m	Rig	SEA LAB
Other Position Fixing Methods		Objectives Stratigraphic			
		Spud Date 24.7.76 Completion Date 26.7.76			
		Status Completed Final Depth bs.b. 93 m			

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
		10				CHALK AT SEA BED.			
		20				No Samples to 28m			
		30							
		40				PHYLLITE gray and black, occasionally thin, arenaceous bands.			
		50							

DEVONIAN / CARBONIFEROUS

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palæo	Lithological Description	Casing	Electric Logs	Remarks
? DEVONIAN / CARBONIFEROUS		50				<u>PHYLLITE</u> grey and black, occasionally thin arenaceous bands.			
		60							
		70							
		80							
		90							
		100				END OF BOREHOLE			

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 AREA L I Z A R D
 SUMMARISED BOREHOLE LOG
 Ref. 49/06/377 Author M. Parkin

Borehole No	87 / 14 - 1	Area	L I Z A R D	Block No	87 - 16
Latitude	49° 32.02' N	I.G.S. regd No 49 / 05 / 565			
Longitude	4° 12.25' W	Water Depth	85m	Rig	ZEPHYR
Other Position Fixing Methods	Objectives Stratigraphic				
Spud Date 9.8.77 Completion Date 20.8.77					
Status Completed Final Depth bs.b. 1228.5m					

Stratigraphy	Depth Drilled below KB	Graphic Log.	Well: 87/14-1		Casing	Electrical Log Suites	Remarks	
			Position: 49°32'02.3"N 04°12'25.6"W					
	11 m m		Lithological description					
	0 K.B. 0							
	Mean 25 Sea Level							
PALAEOGENE	Sea Bed 110		SANDSTONE, calcareous, glauconitic, abundant macrofossils		30m			
	First returns 162		LIMESTONE, white to grey, argillaceous, abundant fossils		145m			
	190		CLAY, light grey, soft calcareous with					
CRETACEOUS	200		LIMESTONE, light grey, hard					
	200		CHALK, white, hard, granular, occasionally soft-firm with flints					
	250							
	300-1000		CHALK, white, firm-hard, occasionally soft-firm		133m			
	400		CHALK, white, soft with occasional					
			LIMESTONE; white, hard, fine grained					
	500							
	540							
	600-2000		CHALK, white, hard, recrystallized		354m			
PERMO-TRIASSIC	625							
			LIMESTONE, white, granular, fine grained, glauconitic towards base					
	700		SANDSTONE, red-brown, medium to coarse grained with MUDSTONE, and SILTSTONE, red-brown, soft, calcareous					
	692							
	800		SANDSTONE, predominantly red-brown, part white, soft to firm, fine grained, argillaceous, interbedded with					
	900		MUDSTONE, red-brown, soft, sticky, slightly calcareous, occasionally light green in colour and grading into SHALE					
	3000							
	1000							
	1100							
	1200		SANDSTONE, MUDSTONE, and SILTSTONE, as above					
	4000							
				T.D. 1228.5 metres (Loggers depth)				
				Spud date 9.8.77				
				T.D. reached 20.8.77				

Borehole No	87/16-1	Area	L I Z A R D	Block No	87 - 14
Latitude	49° 26' 21" N	I.C.S. regd No 49/05/566			
Longitude	4° 53' 17" W	Water Depth	95.8 m	Rig	ZEPHYR
Other Position Fixing Methods	Objectives Stratigraphic				
Spud Date 9.10.77 Completion Date 18.10.77					
Status Completed Final Depth bs.b. 929.5 m					

Stratigraphy		Depth drilled below K.B.	Graphic Log	Core	Well: 87/16-1	Casing	Electrical Log Suites	Remarks
		ft m m			Position: 49° 26' 21.7" N 04° 53' 17.4" W			
		0 K.B. 0			Lithological description			
		Mean 25 Sea Level						
PALAEOGENE		Sea bed 121			SANDSTONE, grey-green, soft, fine grained. (from seabed data).	30"		
	Eocene	First returns 177			LIMESTONE, white, soft, occasionally hard and granular, with thin medium to fine sands.	161m	Run 1 HDT IES CNL/FDC/GR/CAL BHCS/GR	
CRETACEOUS	Palaeocene	236						
	Maastrichtian	242			CHALK, light grey to off white, soft, fossiliferous with flints.			
		300-1000						
	Campanian	400				13 3/4"		
	Santonian	500				417m		
	Coniacian	533						
TRIASSIC		600-2000			CHALK, white to off white, firm to hard, granular and recrystallised.			
	Turonian	620					Run 2 HDT IES CNL/FDC/GR/CAL BHCS/GR	
	Cenomanian	740						
	Albian	791			CHALK, white, glauconitic, argillaceous bands. MUDSTONE, dark grey, silty, glauconitic pyritic.			
		800			SANDSTONE, loose, fine-medium grained. MUDSTONE, variegated red, green and purple.			Unconformity
	Carnian	829			MUDSTONE, red-brown, silty calcareous.			
		3000						

T.D. 929.5 metres (Loggers depth)

Spud date 9.10.77.


T.D. reached 18.10.77.

Borehole No	81 / 5	Area	L I Z A R D	Block No	87 - 15
Latitude	49° 33.73' N	I.C.S		regd No	49/55/650
Longitude	4° 07.26' W	Water Depth	79 M	Rig	MARINER
Other Position Fixing Methods		Objectives Stratigraphic			
SAT NAV		Spud Date 26.5.81 Completion Date 27.5.81			
Decca		Status Completed Final Depth bs.b. 35.5m			

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Paleo	Lithological Description	Casing	Electric Logs	Remarks
TERTIARY Eocene		10				<u>SAND</u> , green, muddy, loose gravel with nummulites.			
TERTIARY DANIAN		20				<u>CHALK</u> , gray argillaceous, soft with flints.			
		30							
		40				END OF BOREHOLE			
		50							

Borehole No	SL5 8	Area	GUERNSEY	Block No	88 - 2
Latitude	49° 51.46 N	I.G.S regd No 49/04/204			
Longitude	3° 39.17 W	Water Depth 71 - 75m Rig SEA LAB			
Other Position Fixing Methods		Objectives Stratigraphic			
		Spud Date 15.7.75 Completion Date 20.7.75			
		Status Completed Final Depth bs.b. 91.80m			

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
		10				No SAMPLES			Biostratigraphy: Age - Upper Cretaceous early to late Campanian
UPPER CRETACEOUS (UPPER CAMPAIAN - LOWER MAESTRICHTIAN)		20							
		30							
		40				CHALK, white with flints, fossiliferous in places.			
		50							

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
UPPER CRETACEOUS (UPPER CAMPAIAN - LOWER MAASTRICHTIAN)		50				CHALK, white with flints, fossiliferous in places			
		60							
		70							
		80							
		90							
		100				END OF BOREHOLE			

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AREA GUERNSEY

SUMMARISED BOREHOLE LOG

Ref.	Author
49/04/204	M. Parkin

Borehole No	88/2-1	Area	GUERNSEY	Block No	88-2
Latitude	49° 51.13 W	IGS regd No 49/04/209			
Longitude	3° 47.21 W	Water Depth	75 M	Rig	ZEPHYR
Other Position Fixing Methods	Objectives Stratigraphic				
Spud Date 11.7.77 Completion Date 3.8.77					Status Completed Final Depth bs.b. 872.9 M


Stratigraphy	Depth Drilled below K.B.	Graphic Log	Well: 88/2-1	Casing	Electrical Log Suites	Remarks
	ft m m		Lithological description			
	0 K.B. 0					
	Mean 25 Sea Level					
CRETACEOUS	Sea bed 100		CHALK, white, soft-firm with flints	30" 138m	Run 1	
Cenomanian	First returns 165		CHALK, white, granular, glauconitic		— HDT —	
Turonian	188		MUDSTONE, grey-brown, silty, with pebbles,		— IES —	Unconformity
	200		MUDSTONE, grey, soft		— CNL/FDC/GR/CAL —	
	214				GR/BHCS	
JURASSIC	300		MUDSTONE, grey to light grey, soft to firm, calcareous and	13 3/8" 372m		
Pliensbachian	1000		SHALE, grey to brown, firm to hard, calcareous, carbonaceous, fissile.			
	400					
	500		MUDSTONE, pale to dark grey, fissile.		Run 2	
	600		Nodular with secondary calcite in vugs.		— HDT —	
	2000		Thin limestones, pale grey, argillaceous.		— IES —	
			Fossiliferous. Lignite and carbonaceous fragments abundant.		— CNL/FDC/GR/CAL —	
	700		LIMESTONES, pale grey, argillaceous with		GR/BHCS	
	705		MUDSTONES, grey, shaly, calcareous, carbonaceous			
	725					
	753		LIMESTONE, light grey			
TRIASSIC	800		SILTSTONE, MUDSTONE and LIMESTONE, dark grey and red-brown.			
Langport Mbr.			MUDSTONE, light grey-green also red-brown, to firm, calcareous			
Gotham Mbr. and Westbury Fm.			MUDSTONE, grey-green and red-brown.			
Blue Anchor Fm.			LIMESTONE, grey-green			
7 Norian	854		MUDSTONE, red-brown, soft-firm.			
Mercia Mudstone Group						
			T.D. 872.9 metres (Loggers depth)			
			Spud date 11.7.77			
			T.D.reached 3.8.77.			

Borehole No	74/41	Area	LANDS	ENO	Block No	95 - 23
Latitude	50° 12.02' N	I.G.S. regd No 50/05/142				
Longitude	4° 30.15' W	Water Depth 58.8 - 63m Rig WHITETHORN				
Other Position Fixing Methods	Objectives Stratigraphic					
Radar Ranging		Spud Date 14-10-74 Completion Date 15-10-74				
Dacee red A12.20 green E37.95 purple B57.05		Status Completed Final Depth bs.b. 20.0m				

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
Recent						GRAVEL, coarse, shelly. CLAY, with rock fragments.			
PERMIAN / TRIASSIC		10				BRECCIA red-brown with angular rock fragments.			
		20				END OF BOREHOLE			
		30							
		40							
		50							

Borehole No <u>81 / 6</u>		Area <u>LANDS END</u>		Block No <u>94 - 2</u>	
Latitude <u>50° 50' 16" N</u>			I.G.S. regd No <u>50/06/440</u>		
Longitude <u>5° 49' 83" W</u>			Water Depth <u>82 m</u>		Rig <u>MARINER</u>
Other Position Fixing Methods			Objectives <u>Stratigraphic</u>		
<u>SATNAV</u>			Spud Date <u>27. 5. 81</u> Completion Date <u>29. 5. 81</u>		
<u>Dacca</u>			Status <u>Uncompleted</u> Final Depth bs.b. <u>88.7m</u>		

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
T E R T I A R Y						<u>SAND</u> , green with some pebbles.			
						<u>CLAY</u> , green-gray, carbonaceous silty, laminae, band of lignite.			
		10				<u>SAND</u> , grey-green, fine, muddy.			
						<u>CLAY</u> , green-gray, as above.			
						<u>SAND</u> gray-green, fine, muddy.			
		20				<u>CLAY</u> , grey-green, very stiff, micaceous with lignitic fragments.			
						<u>SAND</u> , green, fine-medium, glauconitic.			
						<u>CLAY</u> , brown, firm, micaceous.			
		40				<u>SAND</u> , brown, muddy, soft, micaceous.			
						<u>SILT</u> mud and sand laminae carbonaceous, micaceous, glauconitic.			
	50				As below				

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
E R T I A R Y		50				<u>CLAY</u> brown - green, silty, stiff, interbedded with:- <u>SAND</u> green, silty, soft, micaceous, with glauconite and occasional pebbles.			Hole abandoned due to bad weather.
		60				70			
		90				END OF BOREHOLE			
		100							

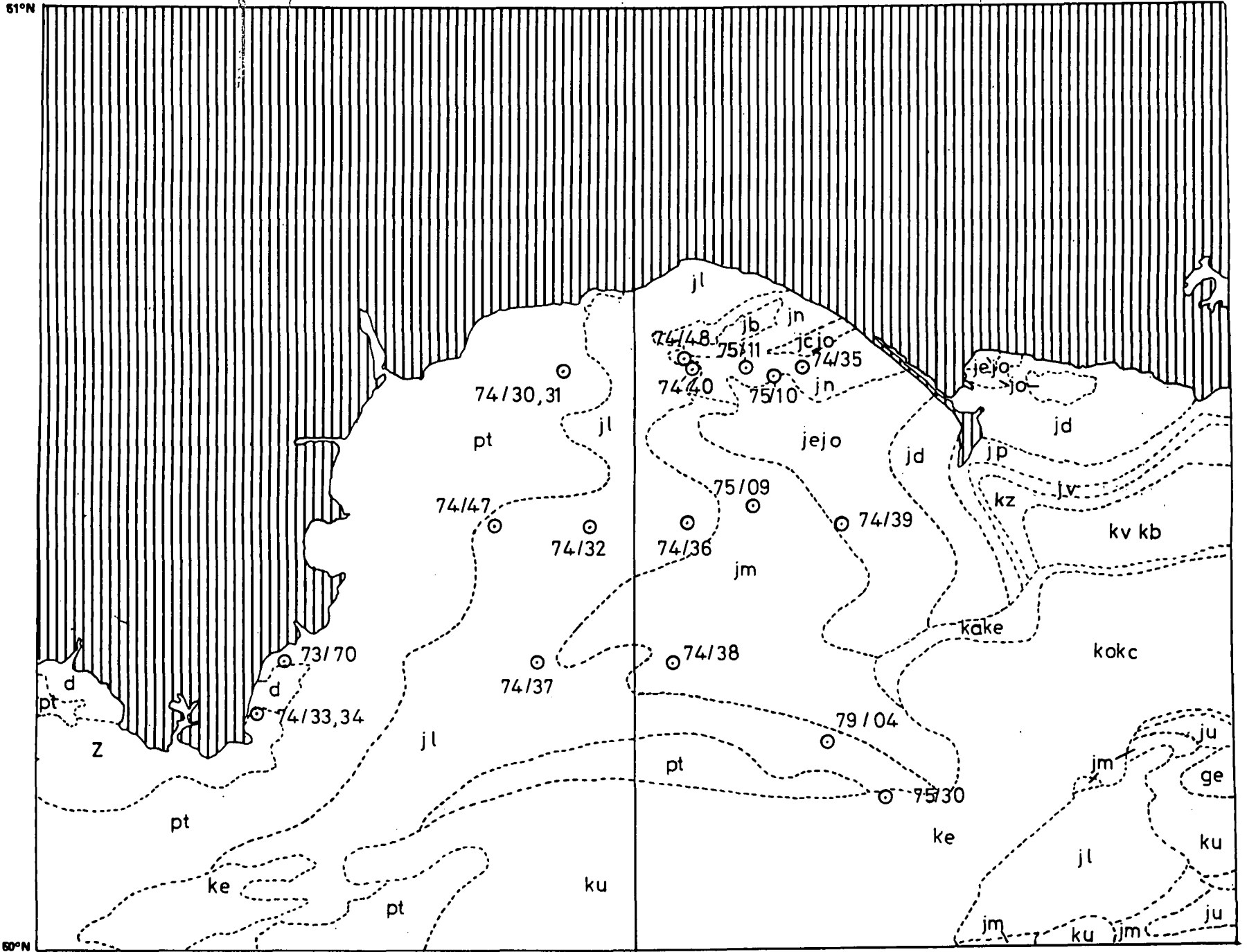
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AREA LANDS END

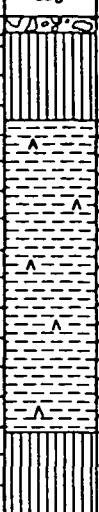
SUMMARISED BOREHOLE LOG


Ref.	Author
50/56/440	M. Parkin

fig 17



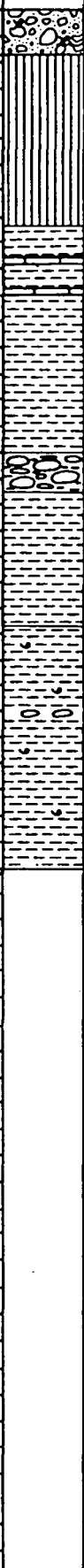
Borehole No. 73/70				1:250,000 Sheet Area PORTLAND				I.G.S. Reg. No. 50/04/176			
LAT. 50° 18.45' N				LONG. 3° 35.24' W				BLOCK NUMBER 96 - 23			
WATER DEPTH 15.80 - 20.00m		TOTAL DEPTH BELOW SEABED 34.40m		RIG. WHITETHORN				COMPLETION DATE 15.12.74			
System	Series	Stage	Zone	Drilled Depth (metres)	Graphic Log	Cores	Lithological Description		Litho- strat	Remarks	
Recent							GRAVEL, shelly			Drilled by shell and auger to 31.00m by SF core barrel to 32.00m by HWF core barrel to 34.40m	
				10			SAND, fine grained, brown-grey with scattered shell debris.				
				20			SAND, fine grained, grey, muddy, with gravel.				
				30			SANDSTONE, red-brown, weathered.		Basal Permian Breccias		
PERMIAN							BRECCIA, red-brown, coarse angular clasts of quartz and medium grained sandstone in a red marly matrix.				
							T.D. 34.40m				
				40							
				50							
				60							




Borehole No. 74/30&31				1: 250,000 Sheet Area PORTLAND				I.G.S. Reg. No. 50/04/185			
LAT. 50° 36.88' N				LONG. 3° 7.25' W				Block Number 96 - 15			
WATER DEPTH 28.00 - 30.00m		TOTAL DEPTH BELOW SEABED 17.10m		RIG. WHITETHORN				COMPLETION DATE 25.9.74			
System	Series	Stage	Zone	Drilled Depth (metres)	Graphic Log	Cores	Lithological Description		Litho- strat	Remarks	
Recent							GRAVEL, shelly		Drilled by shell and auger to 2.00m by rock roller to 3.50m by SF core barrel to 17.10m		
T R I A S S I C							NO RECOVERY				
				10			MUDSTONE, red-brown, with grey-green mottling and occasional thin fibrous gypsum layers	*? Mercia Mudstone Group			
							NO RECOVERY				
							T.D. 17.10m				
				20					* Formerly Keuper Marl		
				30							
				40							
				50							
				60							

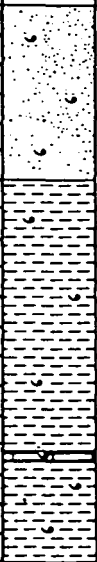

Borehole No. 74/32				1: 250,000 Sheet Area PORTLAND				I.G.S. Reg. No. 50/04/186			
LAT. 50° 27.01' N				LONG. 3° 4.58' W				BLOCK NUMBER 96 - 20			
WATER DEPTH 49.00 - 50.00m				TOTAL DEPTH BELOW SEABED 7.80m				RIG. WHITETHORN		COMPLETION DATE 27.9.74	
System	Series	Stage	Zone	Drilled Depth (metres)	Graphic Log	Cores	Lithological Description		Litho-strat	Remarks	
Recent							GRAVEL, coarse, with shells			Drilled by shell and auger to 1.50m by rock roller to 5.50m by SF core barrel to 7.80m For details of micro-palaeontology see Rep. Inst Geol.Sci., No.77/7, p.19 and Rep. Inst. Geol. Sci., 78/ (in press).	
JURASSIC	Lower	SINEMURIAN	turneri - obtusum				NO RECOVERY		Shales-with-Beef- Black Ven Marl		
							MUDSTONE, dark grey with listric surfaces. Fissile and fossiliferous. <u>Promicroceras?</u> at 7.45m				
							NO RECOVERY				
				10			T.D. 7.80m				
				20							
				30							
				40							
				50							
				60							

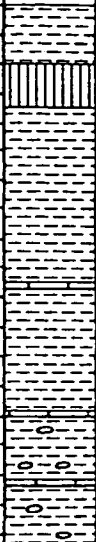

Borehole No. 74/33&34				1:250,000 Sheet Area PORTLAND				I.G.S. Reg. No. 50/04/187 and 50/04/188			
LAT. 50° 15.08' N				LONG. 3° 37.95' W				BLOCK NUMBER 96 - 22			
WATER DEPTH 18.00 - 20.00m				TOTAL DEPTH BELOW SEABED 4.90m				RIG. WHITETHORN		COMPLETION DATE 28.9.74	
System	Series	Stage	Zone	Drilled Depth (metres)	Graphic Log	Cores	Lithological Description		Litho-strat	Remarks	
Recent							SAND, with shell debris and fragments of grey schist. SCHIST, grey-brown weathered. SCHIST, dark grey, unweathered, micaceous T.D. 4.90m		Start Point Metamorphics	Drilled by shell and auger to 1.50m by SF core barrel to 4.90m	
DEVONIAN/ CARBONIFEROUS											
				10							
				20							
				30							
				40							
				50							
				60							

Borehole No. 74/35				1: 250,000 Sheet Area PORTLAND		I.G.S. Reg. No. 50/03/298			
LAT. 50° 37.09' N		LONG. 2° 43.05' W		BLOCK Number 97 - 12					
WATER DEPTH 30.80 - 33.90m		TOTAL DEPTH BELOW SEABED 53.00m		RIG. WHITETHORN		COMPLETION DATE 1.10.74			
System	Series	Stage	Zone	Drilled Depth (metres)	Graphic Log	Cores	Lithological Description	Litho-strat	Remarks
Recent							GRAVEL, with shell debris.		Drilled by shell and auger to 2.00m by rock roller to 5.00m by SF core barrel to 23.00m by PQ wireline to 53.00m For details of micro-palaeontology see Rep. Inst. Geol. Sci., No. 77/7, p. 13.
JURASSIC	Middle	BATHONIAN	<i>aspidoides</i> *				MUDSTONE, grey brown, with scattered shell debris.		
							NO RECOVERY		
				10			MUDSTONE, medium to pale grey. <i>Clydoniceras</i> fairly common, <i>Oppelia</i> (<i>Oxycerites</i>) <i>aspidoides</i> , (<i>Oppel</i>), <i>O. (O.)</i> sp. common.		
				20			MUDSTONE, medium to pale grey, with scattered shell debris, pyrite trails, rods and burrow infills. <i>Oecotraustes</i> (<i>Paroecotraustes</i>) sp. and oppeiids fairly common.		
							<i>Liostrea hebridica</i> (Forbes) and <i>Rhynchonelloidella</i> in mudstone matrix.	Hebrida Bed	
							MUDSTONE, medium to pale grey, very shelly and occasionally silty, with pyrite trails and cementstone nodules. <i>Oecotraustes</i> (<i>Paroecotraustes</i>) including <i>O. (P.) formosus</i> , Arkell <i>O. (P.) maubeugei</i> Stephanov fairly common.	Frome Clay	
							MUDSTONE, pale grey, calcareous, with shell debris and thin pale grey argillaceous limestone bands. <i>Oecotraustes</i> (<i>Paroecotraustes</i>) <i>maubeugei</i> , <i>O. (P.)</i> sp. and <i>Oppelia</i> (<i>Oxycerites</i>) sp. and oppeiids, perisphinctid and proceritid fragments. <i>Acanthothiris powerstockensis</i> Buckman and Walker, <i>Rhynchonelloidella wattonensis</i> Muir-Wood <i>Wattonithyris</i> sp.	Wattonensis Beds	
							T.D. 53.00m		*The ammonite zonation of the Bathonian is under discussion see Penn I.E. and Wyatt R. Rept. Inst. Geol. Sci. (in press).






Borehole No. 74/36				1: 250,000 Sheet Area PORTLAND				I.G.S. Reg. No. 50/03/299			
LAT. 50° 27.20' N				LONG. 2° 54.50' W				BLOCK NUMBER 97 - 16			
WATER DEPTH 49.00 - 52.50m		TOTAL DEPTH BELOW SEABED 33.00m		RIG. WHITETHORN		COMPLETION DATE 6.10.74					
System	Series	Stage	Zone	Drilled Depth (metres)	Graphic Log	Cores	Lithological Description		Litho-strat	Remarks	
Recent							GRAVEL, coarse, sandy, with shell debris.			<p>Drilled by shell and auger to 1.8m by rock roller to 8.20m by SF core barrel to 33.0m</p> <p>For details of micro-palaeontology see Rep. Inst. Geol. Sci., No. 77/7 p.13 and Rep. Inst. Geol. Sci., No. 78/ (in press).</p>	
JURASSIC	Lower	TOARCIAN (Lower)	falciferum	10			NO RECOVERY		Upper Lias		
			falciferum	20			MUDSTONE, green-pale grey, mottled, with thin argillaceous limestone bands and occasional ammonite fragments, (including <i>Dactylioceras</i> cf. <i>anguiforme</i> (S.S. Buckman) 9.67-10.24m <i>Harpoceras</i> cf. <i>falciferum</i> (J. Sowerby) 10.07-17.66m. <i>Phylloceras</i> sp 10.18m). Pyrites trails present throughout.				
			falciferum	30			CLAY IRONSTONE nodule band.				
			falciferum	40			MUDSTONE a. a. with pyritic trails, infilled burrows and occasional pyritised ammonites, (including <i>Harpoceras</i> cf. <i>elegans</i> (J. Sowerby) 22.11m, and <i>Harpoceras</i> cf. <i>serpentinum</i> (Reinecke) 22.17-24.52m).				
			tenuicostatum	50			MUDSTONE, brownish grey-green, grey mottling, calcareous, with ammonites, (including <i>Harpoceras</i> sp. to 26.21m <i>Dactylioceras</i> cf. <i>semicelatum</i> (S.S. Buckman) at 30.28m) and bivalves, (including <i>Steinmannia</i> sp 28.15-29.21m). Small limestone nodule layer at 27.50m.				
				60			T. D. 33.00m				

Borehole No. 74/37				1:250,000 Sheet Area PORTLAND				I.G.S. Reg. No. 50/04/209			
LAT. 50° 18.36' N				LONG. 3° 9.85' W				Block Number 96 - 25			
WATER DEPTH 58.00m 60.00m				TOTAL DEPTH BELOW SEABED 22.50m				RIG. WHITETHORN		COMPLETION DATE 10.10.74	
System	Series	Stage	Zone	Drilled Depth (metres)	Graphic Log	Cores	Lithological Description		Litho-strat	Remarks	
Recent							GRAVEL, sandy, shelly, with flints.			Drilled by shell and auger to 2.50m by rock roller to 7.50m by SF core barrel to 22.50m For details of micro-palaeontology see Rep. Inst. Geol. Sci., No. 77/7, p. 19.	
J U R A S S I C	Lower	T O A R C I A N (Upper)	? variabilis - ? levesquei	10			MUDSTONE, grey-brown, weathered.		Upper Lias		
							NO RECOVERY				
							MUDSTONE, grey-brown, with argillaceous limestone bands up to 10cms thick. Haugia? at 16.50m.				
				20			MUDSTONE, light grey-brown, with ammonite fragments and shell debris. Occasional calcareous nodular bands.				
							T. D. 22.50m				
				30							
				40							
				50							
				60							

Borehole No. 74/38				1:250,000 Sheet Area PORTLAND			I.G.S. Reg. No. 50/03/301		
LAT. 50° 18.26' N				LONG. 2° 56.14' W			BLOCK NUMBER 97 - 21		
WATER DEPTH 51.60 - 53.20m				TOTAL DEPTH BELOW SEABED 19.0m			RIG. WHITETHORN COMPLETION DATE 11.10.74		
System	Series	Stage	Zone	Drilled Depth (metres)	Graphic Log	Cores	Lithological Description	Litho-strat	Remarks
Recent	JURASSIC	Middle	BATHONIAN	10			SAND, fine, gravelly with shells.	Upper Fuller's Earth/ Frome Clay	Drilled by shell and auger to 7.0m by SF core barrel to 19.00m For details of micro-palaeontology see Rep. Inst. Geol. Sci., No. 77/7, p. 13 and Rep. Inst. Geol. Sci., No. 78/ (in press).
							MUDSTONE, pale grey, calcareous, with comminuted shell debris. Occasional argillaceous limestone nodules, with calcite veining in places. <u>Acanthothiris sp.</u> and <u>Rhynchonelloidella</u> above 9m; association of <u>Bositra buchi</u> , <u>Modiolus sp.</u> <u>Pinna subcancellata</u> (Lissajous)		
							LIMESTONE, medium grey, fine grained, recrystallised with scattered bivalves.		
				20			MUDSTONE, pale grey, calcareous, with shell debris.		
							T.D. 19.00m		
				30					
				40					
				50					
				60					

Borehole No. 74/39				1: 250,000 Sheet Area PORTLAND				I.G.S. Reg. No. 50/03/302			
LAT. 50° 27.04' N				LONG. 2° 39.18' W				BLOCK NUMBER 97 - 17			
WATER DEPTH 49.40 - 51.40m				TOTAL DEPTH BELOW SEABED 18.55m				R.J.G. WHITETHORN		COMPLETION DATE 12.10.74	
System	Series	Stage	Zone	Drilled Depth (metres)	Graphic Log	Cores	Lithological Description		Litho-strat	Remarks	
JURASSIC	Upper	CALLOVIAN (Lower)	calloviense	10			MUDSTONE, grey and fossiliferous.		Kellaways Clay	Drilled by shell and auger to 2.00m by rock roller to 3.50m by SF core barrel to 18.55m Micropalaeontology. <u>Citharinella nikitini</u> (Uhlig) <u>Citharina flabellata</u> (Gumbel) <u>Praeschuleridea batei</u> Whatley at 9.50 m indicating Callovian. B. E. C.	
							NO RECOVERY				
							MUDSTONE, medium-dark grey, with numerous bivalves, including <u>Catinula</u> and <u>Myophorella</u> ; occasional hard limestone bands and scattered calcareous nodules; <u>Proplanulites</u> sp. fragments at 7.40m and 9.00m cf. <u>Sigaloceras</u> fragment at 10.10m T.D. 18.55m				
				20							
				30							
				40							
				50							
				60							

Borehole No. 74/40				1:250,000 Sheet Area PORTLAND				I.G.S. Reg. No. 50/03/303			
LAT. 50° 36.98' N				LONG. 2° 54.15' W				BLOCK NUMBER 97 - 11			
WATER DEPTH 30 - 32.80m				TOTAL DEPTH BELOW SEABED 32.00m				RIG. WHITETHORN		COMPLETION DATE 13.10.74	
System	Series	Stage	Zone	Drilled Depth (metres)	Graphic Log	Cores	Lithological Description		Litho-strat	Remarks	
Recent							SAND, grey, fine-medium grained:			Drilled by shell and auger to 7.5m by rock roller to 10.0m by SF core barrel to 22.00m by H core barrel to 22.00m	
J U R A S S I C	L o w e r	P L I E N S B A C H I A N (Upper)	<u>m a r g a r i t a t u s</u>				MUDSTONE, brown-grey, weathered, silty and micaceous in places.				
							NO RECOVERY				
				10			SILTSTONE, grey, friable, with alternations of thin limestones, grey fossiliferous, argillaceous and micaceous.		Middle Lias		
				20			SILTSTONE, grey, with occasional clay ironstone nodules. <u>Amaltheus</u> sp. 18.90 to 19.10m.				
				30			LIMESTONE, grey, argillaceous.				
			MUDSTONE, grey, silty a.a.								
							T.D. 32.00m				
				40							
				50							
				60							

Borehole No. 74/47				1:250,000 Sheet Area PORTLAND			I.G.S. Reg. No. 50/04/245		
LAT. 50° 27.07' N				LONG. 3° 14.14' W			Block Number 96 - 19		
WATER DEPTH 42.00 - 46.00m				TOTAL DEPTH BELOW SEABED 12.00m		RIG. WHITETHORN		COMPLETION DATE 30.11.74	
System	Series	Stage	Zone	Drilled Depth (metres)	Graphic Log	Cores	Lithological Description	Litho-strat	Remarks
Recent							GRAVEL, sandy, with shell debris.	Blue Lias/Shales-with-Beef	<p>Drilled by shell and auger to 4.50m by SF core barrel to 12.00m</p> <p>For details of micro-palaeontology see Rep. Inst.Geol Sci., No 77/7 p 19.</p> <p><u>Note</u></p> <p>*<u>Arnioceras</u> ranges from high <u>bucklandi</u> Zone to <u>obtusum</u> Zone inclusive.</p>
JURASSIC	Lower	SINEMURIAN	*? <u>semicostatum</u> / <u>turneri</u>	10			MUDSTONE, medium to dark grey, calcareous. <u>Arnioceras</u> sp.		
							LIMESTONE, grey, argillaceous.		
							MUDSTONE, medium grey calcareous. <u>Camptonectes</u> ?		
							LIMESTONE, grey, argillaceous.		
							MUDSTONE, medium grey calcareous. <u>Arnioceras</u> sp. <u>Astarte</u> sp.		
							T.D. 12.00m		
				20					
				30					
				40					
				50					
				60					


Borehole No. 74/48				1:250,000 Sheet Area PORTLAND		I.G.S. Reg. No. 50/03/329						
LAT. 50° 37.64' N		LONG. 2° 55.01' W			BLOCK NUMBER 97 - 11							
WATER DEPTH 28.80 - 34.40m		TOTAL DEPTH BELOW SEABED 19.30m			RIG. WHITETHORN		COMPLETION DATE 2.12.74					
System	Series	Stage	Zone	Drilled Depth (metres)	Graphic Log	Cores	Lithological Description		Litho-strat	Remarks		
Recent							GRAVEL, with shell debris.			Drilled by shell and auger to 1.00m by rock roller to 3.00m by SF core barrel to 19.30m For details of micro-palaeontology see Rep. Inst. Geol. Sci., No 77/7 p.15 Macro-palaeontology Zones based on ammonites; see Penn I. E. and Dingwall R.G., Rep. Inst. Geol. Sci. (in press).		
JURASSIC	Middle	Upper	subfurcatum-parkinsoni				NO RECOVERY		Upper			
							LIMESTONE, decalcified?, dark green with ironshot ooliths, occasional ammonites.					
		Middle	discites-humphresianum	10			NO RECOVERY		Middle			
							LIMESTONE, as above, more argillaceous; some vertical burrows and belemnites.					
							NO RECOVERY					
		Lower	murchisonae-concavum				LIMESTONE, as above, with white ooliths and pelletoidal pockets.		Lower			
							LIMESTONE, greenish-grey, sandy, slightly decalcified burrowed.					
							LIMESTONE, oolitic, grey or yellowish ironshot ooliths in pale blue grey argillaceous limestone matrix.					
							CONGLOMERATE, lenses of iron stained limonitic pebbles.					
									LIMESTONE, oolitic as above, with thin dark grey mudstone with scattered ooliths and limonitic pellets.			
									T. D. 19.30m			
				20								
				30								
				40								
				50								
				60								

Borehole No. 75/10				1:250,000 Sheet Area PORTLAND				I.G.S. Reg. No. 50/03/334			
LAT. 50° 36.59' N				LONG. 2° 45.67' W				BLOCK No 97 - 12			
WATER DEPTH 30.00 - 32.50m				TOTAL DEPTH BELOW SEABED 31.25m				RIG. WHITETHORN		COMPLETION DATE 5.5.75	
System	Series	Stage	Zone	Drilled Depth (metres)	Graphic Log	Cores	Lithological Description			Litho-strat	Remarks
Recent							SAND, shelly with pebbles.			Hebridica Bed	Drilled by shell and auger to 1.00m. by SF core barrel to 31.25m For details of micro-palaeontology see Rep. Inst. Geol. Sci., No. 77/7, p. 15
JURASSIC	Middle	BATHONIAN	aspidoides				CLAY, dark grey, waxy abundant <i>Liostrea hebridica</i> (Forbes) and <i>Rhynchonelloidella</i> sp.				
			'retrocostatus'				MUDSTONE, dark grey with scattered shell debris.				
							CLAY, medium grey, waxy with shell debris.				
				10			NO RECOVERY				
							MUDSTONE, pale to dark grey, calcareous, occasionally silty with shell debris. <i>Oecotraustes</i> (<i>Paroecotraustes</i>) sp. and oppeliids fairly common.				
				20			LIMESTONE, medium to dark grey, argillaceous, with scattered shell debris.				
							MUDSTONE, medium grey, calcareous, with scattered shell debris, alternating with thin dark grey argillaceous limestones. <i>Oecotraustes</i> (<i>Paroecotraustes</i>) sp. and perisphinctid fragments, <i>Acanthothiris</i> sp. and <i>Rhynchonelloidella</i> sp. common, <i>Wattonithyris</i> ; <i>Bositra buchi</i> (Roemer) <i>Modiolus anatinus</i> (Smith) both common.				
				30			T.D. 31.25m				
				40							
									Frome Clay		
										Wattonensis Beds	

* The ammonite zonation of the Bathonian is under discussion see Penn I. E. and Wyatt R. Rep. Inst. Geol. Sci. (in press).

Borehole No. 75/11				1:250,000 Sheet Area PORTLAND				I.G.S. Reg. No. 50/03/335			
LAT. 50° 36.43' N				LONG. 2° 48.76' W				BLOCK NUMBER 97 - 11			
WATER DEPTH 30.00 - 32.50m		TOTAL DEPTH BELOW SEABED 41.12m		RIG. WHITETHORN				COMPLETION DATE 7.5.75			
System	Series	Stage	Zone	Drilled Depth (metres)	Graphic Log	Cores	Lithological Description		Litho- strat	Remarks	
Recent							SAND, gravelly, with shells.			Drilled by shell and auger to 2.90m by SF core barrel to 41.12m For details of micro- palaeontology see Rep. Inst. Geol. Sci., No. 77/7, p.15.	
JURASSIC	Middle	BATHONIAN		10			MUDSTONE, grey, cal- careous and fossiliferous <u>Clydoniceras</u> sp., <u>Oecotraustes</u> (<u>Paroeco- traustes</u>) sp. and <u>Bositra buchi</u> common.		Wattonensis Beds Frome Clay		
				20		MUDSTONE, grey cal- careous with peris- phinctid and proceritid fragments, <u>Acanthothiris</u> very common, <u>Rhyncho- nelloidella</u> including <u>R. smithi</u> (Davidson), <u>R. wattonensis</u> , <u>Catinula matisconensis</u> (Lissajous) <u>Wattonithyris</u> sp. Thin hard, argillaceous lime- stones throughout					
				30		<u>Bositra buchi</u> , <u>Modiolus</u> sp., <u>Pinna</u> sp. common below c. 31m.		Upper Fuller's Earth			
				40		T.D. 41.12m					

Borehole No		75 / 30		Area		PORTLAND		Block No		97 / 23	
Latitude						50° 9.35 N					
Longitude						2° 35.14 W					
Other Position Fixing Methods						I.G.S. regd No 50/03/433					
Objectives						Stratigraphic					
Decca green A 31.64 purple D65.06						Spud Date 25.6.75 Completion Date 26.6.75					
Status						Uncompleted Final Depth bs.b. 1.90m					

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
Recent				X		SAND > GRAVEL of flint and chalk pebbles			Hole Abandoned because of strong tides.
						END OF BOREHOLE			
		10							
		20							
		30							
		40							
		50							

Borehole No	79 / 04	Area	PORTLAND	Block No	97 - 17
Latitude	50° 13.5 N	I.G.S. regd No		53/03/558	
Longitude	2° 40.4 W	Water Depth	58 m	Rig	SURVEYOR
Other Position Fixing Methods		Objectives			
		stratigraphic			
Deca red 46.29 green J39.76 purple D67.21		Spud Date 9.10.79 Completion Date 10.10.79			
		Status Uncompleted Final Depth bs.b. 3.36 m			


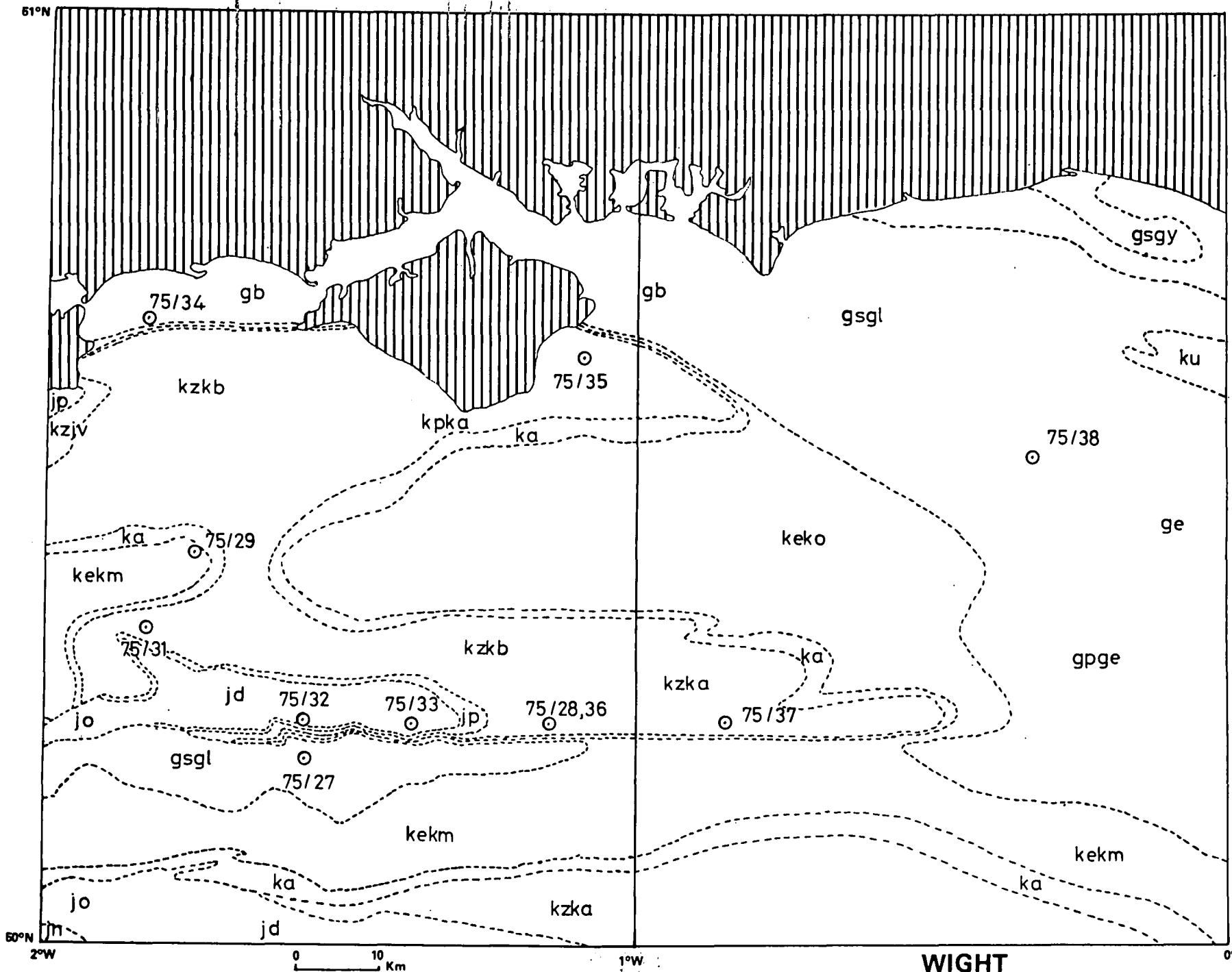
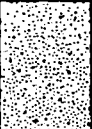
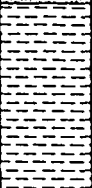

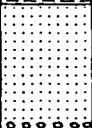

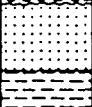











Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
Middle Tertiary						LIMESTONE and MUDSTONE, grey, micaceous, silty.			SAND & GRAVEL Recent
						END OF BOREHOLE			
		10							
		20							
		30							
		40							
		50							

fig 18



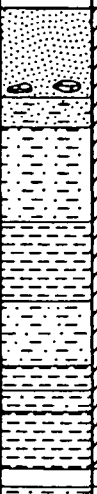

Borehole No. 75/27				1:250,000 Sheet Area WIGHT				I.G.S. Reg. No. 50/02/223			
LAT. 50° 11.94' N				LONG. 1° 33.67' W				BLOCK NUMBER 98 - 23			
WATER DEPTH 55.80 - 57.80m				TOTAL DEPTH BELOW SEABED 24.60m				RIG. WHITETHORN		COMPLETION DATE 20. 6. 75	
System	Series	Stage	Zone	Drilled Depth (metres)	Graphic Log	Cores	Lithological Description		Litho- strat	Remarks	
Recent							SAND, with flint pebbles.			Drilled by shell and auger to 4.80m	
TERTIARY	Eocene	YPRESIAN Lower		10			MUDSTONE, pale grey-green and brown, silty with thin sandstone stringers.		Lower London Clay	by SF core barrel to 14.80m	
							SAND, pale grey-green and brown, scattered pyrite nodules.			by shell and auger to 18.50m	
		SPARNACIAN		20			CONGLOMERATE, flint and quartz pebbles, in sandy glauconitic matrix (erosion plane).		Woolwich and Reading Beds	by U4 sampler to 19.01m	
							SAND, brown, fine grained, friable.			by H core barrel to 24.60m	
							CLAY, brown with sandy laminae and gravel bands at base.				
							SAND, friable a. a.				
							MUDSTONE, grey-green and brown, sandier towards base.				
							T.D. 24.60m				
				30							
				40							
				50							
				60							

For details of micro-palaeontology see Rep. Inst. Geol. Sci., No. 77/7, p 10.

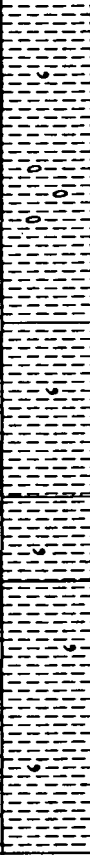

Biostratigraphy:
Age - Indeterminate (Surface - 4.8m)
Age - Palaeogene; early Eocene, Ypresian (6.7m)
Age - Indeterminate (7.05m)
Age - Palaeogene; early Eocene, Ypresian (10.05m)
Age - Indeterminate (11.85 - 24.6m)

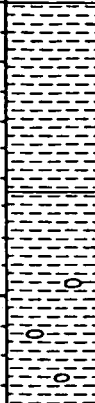

Borehole No. 75/28				1:250,000 Sheet Area WIGHT			I.G.S. Reg. No. 50/02/229		
LAT. 50° 14.26' N				LONG. 1° 08.90' W			BLOCK NUMBER 98 - 20		
WATER DEPTH 58.00 - 60.40m		TOTAL DEPTH BELOW SEABED 3.00m		RIG. WHITETHORN			COMPLETION DATE 21.6.75		
System	Series	Stage	Zone	Drilled Depth (metres)	Graphic Log	Cores	Lithological Description	Litho-strat	Remarks
Recent							SAND, with gravel.		Drilled
CRETACEOUS	Lower	RYAZANIAN					MUDSTONE, dark grey-green, laminated, with micaceous partings	Durlston Formation	by shell and auger to 0.50m by SF core barrel to 3.00m Abandoned due to strong tidal currents For details of micro-palaeontology see Rep. Inst. Geol. Sci., No 77/7 p 10.
							T.D. 3.00m		
				10					
				20					
				30					
				40					
				50					
				60					

Borehole No. 75/29 & 29A				1: 250,000 Sheet Area WIGHT			I.G.S. Reg. No. 50/02/230		
LAT. 50° 25.13' N		LONG. 1° 45.02' W			BLOCK NUMBER 98 - 17				
WATER DEPTH 37.00 - 39.50m		TOTAL DEPTH BELOW SEABED 76.85m			RIG. WHITETHORN		COMPLETION DATE 25. 6. 75		
System	Series	Stage	Zone	Drilled Depth (metres)	Graphic Log	Cores	Lithological Description	Litho- strat	Remarks
CRETACEOUS	Upper	Turonian		10			CHALK, white, with grey argillaceous bands, stylolitic and slickensided throughout. Passes down (c. 20m) into white chalky nodules in a grey argillaceous chalky matrix. Glauconitic towards base	Chalk	Drilled by shell and auger to 1.00m by rockroller to 3.10m by SF core barrel to 24.40m by PQ wireline to 76.85m For details of micro-palaontology see Rep. Inst. Geol. Sci., No. 77/7, p. 12 Biostratigraphy: Age - Upper Cretaceous Turonian (10-21.9m) Age - Upper Cretaceous, Cenomanian (24.4 - 41.15m) Age - Lower Cretaceous (late Albian (46.5 - 60.75m) Age - Lower Cretaceous (?) middle Albian (56.4 - 69.9m) Age - Lower Cretaceous early Albian (72 - 76.5m) Age - Lower Cretaceous Aptian (76.75m)
				20					
CRETACEOUS	Lower	Albian (Upper)	dispar	30			SANDSTONE, green, glauconitic, with pale grey subrounded limestone clasts.	Upper Greensand	
				40					
CRETACEOUS	Lower	Albian (Upper)		50			SANDSTONE, dark green, fine grained, fossiliferous glauconitic, calcareous with scattered limestone clasts. Strongly bioturbated.	Upper Greensand	
				60					

Borehole No. 75/29 & 29A				1: 250,000 Sheet Area WIGHT				I.G.S. Reg. No. 50/02/230							
LAT. 50° 25.13' N				LONG. 1° 45.02' W				Block Number 98 - 17							
WATER DEPTH 37.00 - 39.50m				TOTAL DEPTH BELOW SEABED 76.85m				RIG. WHITETHORN				COMPLETION DATE 25. 6. 75			
System	Series	Stage	Zone	Drilled Depth (metres)	Graphic Log	Cores	Lithological Description				Litho-strat	Remarks			
CRETACEOUS	Lower	ALBIAN (Middle)		70			SANDSTONE, as above. <u>Chlamys milleri</u> (J. de C. Sowerby), <u>Calva</u> (<u>Chimela</u>) <u>caperata</u> (J. de C. Sowerby) <u>Entolium</u> sp.				Gault				
							SANDSTONE, silty, some clay laminae intensely bioturbated. <u>Paraesa</u> spp. <u>Rotularia concava</u> (J. de C Sowerby)								
							SILTSTONE, medium-dark grey, clayey micaceous, calcareous and fossiliferous.								
							MUDSTONE, dark grey, silty, micaceous intensely bioturbated, fossiliferous. <u>Anomia</u> sp. <u>Cucullaea</u> sp. <u>Entolium</u> sp. <u>Oxytoma</u> sp. <u>Pseudolimea</u> sp.								
							SILTSTONE, dark grey, clayey glauconitic with intense bioturbation. <u>Entolium</u> sp. common, <u>Rotularia</u> cf. <u>polygonalis</u> (J. de C. Sowerby).								
		?APTIAN (Lower)		80			MUDSTONE, a. a.				Lower Greensand				
							MUDSTONE, dark grey, silty micaceous with intense bioturbation.								
							MUDSTONE, dark grey to black slickensiding throughout								
							NO RECOVERY								
							SILTSTONE, as above.								
							T. D. 76.85m								

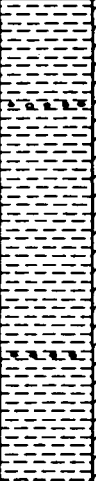

Borehole No. 75/31				1: 250,000 Sheet Area WIGHT				I.G.S. Reg. No. 50/02/231			
LAT. 50° 20.30' N				LONG. 1° 49.80' W				BLOCK NUMBER 98 - 16			
WATER DEPTH 49.80 - 52.20m				TOTAL DEPTH BELOW SEABED 25.00m				RIG. WHITETHORN		COMPLETION DATE 28.6.75	
System	Series	Stage	Zone	Drilled Depth (metres)	Graphic Log	Cores	Lithological Description		Litho-strat	Remarks	
Recent							SAND, with flint pebbles			Drilled	
C R E T A C E O U S ?	Lower?			10			MUDSTONE, grey-brown, with purple-red mottling, silty in parts.		Purbeck - Wealden facies	by shell and auger to 3.30m	
							NO RECOVERY			by SF core barrel to 9.40m	
							CLAY, black, carbonaceous			by shell and auger to 19.00m	
							SANDSTONE, medium-coarse grained, friable, with clay laminations.			by H core barrel to 25.00m	
							MUDSTONE, pale-grey, silty.				
							NO RECOVERY				
				20			SANDS, grey-white, loose, fine-coarse grained, occasional thin pebble beds and thin sandy clays. Pyritised and carbonaceous bands throughout.			Micropalaeontology samples barren. See Rep. Inst. Geol. Sci., No. 77/7, p. 12.	
							T.D. 25.00m				
				30							
				40							
				50							
				60							

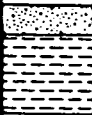
Borehole No. 75/32				1:250,000 Sheet Area WIGHT				I.G.S. Reg. No. 50/02/232			
LAT. 50° 14.46' N				LONG. 1° 33.90' W				BLOCK NUMBER 98-18			
WATER DEPTH 52.00 - 56.00m				TOTAL DEPTH BELOW SEABED 29.35m				RIG. WHITETHORN		COMPLETION DATE 4.7.75	
System	Series	Stage	Zone	Drilled Depth (metres)	Graphic Log	Cores	Lithological Description		Litho-strat	Remarks	
J U R A S S I C	Upper	KIMMERIDGIAN (Lower)	<u>mutabilis</u>	10			MUDSTONE, dark grey, with abundant crushed bivalves, including <u>Astarte</u> , <u>Entolium</u> , <u>Grammatodon</u> and <u>Nanogyra virgula</u> (Defrance); ammonite fragments including <u>Aulacostephanus eulepidus</u> (Schneid) and <u>A. cf. mutabilis</u> (J. de C. Sowerby); <u>Lingula</u> . Occasional thin cement-stones.		Lower Kimmeridge Clay	Drilled by shell and auger to 4.25m by SF core barrel to 29.35m	
							MUDSTONE, dark grey, burrow-mottled, with bivalve fragments and crustacean debris.				
							MUDSTONE, a. a. but with a blocky fracture and paper thin calcite sheets.				
							MUDSTONE, dark-medium grey, fissile, shelly with bivalves, including <u>Entolium</u> , <u>Placunopsis</u> , <u>Protocardia</u> , oysters, including <u>Nanogyra</u> ; ammonites including <u>A. eulepidus</u> and <u>A. cf. mutabilis</u> ; <u>Procerithium</u> and fish fragments.				
				30			T.D. 29.35m				
				40							
				50							
				60							






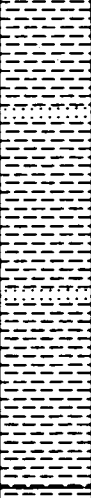


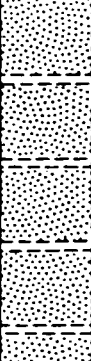
Borehole No. 75/33				1:250,000 Sheet Area WIGHT				I.G.S. Reg. No. 50/02/240			
LAT. 50° 14.20' N				LONG. 1° 22.95' W				Block Number 98 - 19			
WATER DEPTH 52.00 - 55.00m				TOTAL DEPTH BELOW SEABED 14.00m				RIG. WHITETHORN		COMPLETION DATE 6.7.75	
System	Series	Stage	Zone	Drilled Depth (metres)	Graphic Log	Cores	Lithological Description		Litho-strat	Remarks	
J U R A S S I C	U p p e r	KIMMERIDGIAN (Upper)	elegans - scitulus	10			MUDSTONE, brown-dark grey, sparsely shelly, with pectinatitid ammonite fragments, fish fragments, bivalve fragments (including 'Lucina', Protocardia, oysters); Discinisca, Lingula, Dicroloma		Upper Kimmeridge Clay	Drilled by shell and auger to 2.00m by SF core barrel to 14.00m For details of micro-palaeontology see Rep. Inst.Geol.Sci.,No 77/7 p 12.	
				20			MUDSTONE, dark grey, with brown mottling and calcareous cementstones. Pectinatitid ammonites, bivalves (including Camptonectes, 'Lucina' Protocardia, fish fragments; Discinisca, crinoid and echinoid fragments. Occasional slickensided surfaces. Calcite films on many surfaces. T.D. 14.00m				
				30							
				40							
				50							
				60							

Borehole No. 75/34				1:250,000 Sheet Area WIGHT				I.G.S. Reg. No. 50/02/241			
LAT. 50° 40.03' N				LONG. 1° 49.95' W				Block Number 98 - 11			
WATER DEPTH 10.00 - 15.00m				TOTAL DEPTH BELOW SEABED 48.00m				RIG. WHITETHORN		COMPLETION DATE 9.7.75	
System	Series	Stage	Zone	Drilled Depth (metres)	Graphic Log	Cores	Lithological Description		Litho-strat	Remarks	
Recent							GRAVEL, sandy, with shell debris.			Drilled by shell and auger to 19.00m by SF core barrel to 48.00m For details of micro-palaeontology see Rep. Inst. Geol. Sci., No 77/7, p. 12 <i>Biostratigraphy:</i> <i>Age - Indeterminate</i>	
							CLAY, grey-brown, with silty laminae.				
		YPRESIAN Upper		10			SANDSTONE, grey-brown, poorly cemented, silty, with occasional flint pebbles and shell debris.				
				20			CLAY, grey-brown, waxy silt laminations and carbonaceous plant debris common.				
							SAND, grey, fine grained, with carbonaceous fragments.				
				30							
		?		40			CLAY, brown, plastic, with silty laminae. Rich in plant debris.				
							SANDSTONE, grey-brown fine grained, indurated.				
		YPRESIAN Middle					CLAY, brown, plastic, with silty laminae.				
							SAND, grey-brown, with silty laminae and carbonaceous fragments.				
				50			T.D. 48.00m				
				60							

Borehole No. 75/35				1: 250,000 Sheet Area WIGHT				I.G.S. Reg. No. 50/02/242			
LAT. 50° 37.81' N				LONG. 1° 5.54' W				Block Number 98 - 15			
WATER DEPTH 20.00 - 23.40m				TOTAL DEPTH BELOW SEABED 76.35m				RIG. WHITETHORN		COMPLETION DATE 12. 8. 75	
System	Series	Stage	Zone	Drilled Depth (metres)	Graphic Log	Cores	Lithological Description		Litho-strat	Remarks	
Recent							SAND, fine grained, grey with shell debris.			Drilled by shell and auger to 12.00m by SF core barrel to 76.35m For details of micro-palaeontology see Rep. Inst. Geol. Sci., No. 77/7, p 12	
				10			CLAY, grey, silty.				
							SANDS, brown-grey, poorly consolidated.				
				20							
							CLAY, olive-brown, silty micaceous. <u>Deshayesites</u> cf. <u>callidiscus</u> Casey <u>annelidus</u> Casey at 30.80m <u>Deshayesites</u> aff. <u>planus</u> at 31.0m.		Atherfield Clay Group (Upper Lobster Bed)		
				30			SAND, brown-grey, poorly consolidated, fine grained and silty.				
							CLAY, brown-grey, silty with bivalves.				
				40			SANDS, grey, silty, poorly consolidated.				
							SILT, grey, micaceous with clay lenses.				
				50			CLAY, brown-grey with phosphatic nodules, and shell fragments.				
							MUDSTONE, olive brown grey <u>Toxaster fittoni</u> (Forbes) at 58.50m <u>Aptolinter aptiensis</u> Pictet and Campiche) at 59.35m				
				60							

Borehole No. 75/35				1: 250,000 Sheet Area WIGHT			I.G.S. Reg. No. 50/02/242		
LAT. 50° 37.81' N				LONG. 1° 5.54' W			Block Number 98 - 15		
WATER DEPTH 20.00 - 23.40m		TOTAL DEPTH BELOW SEABED 76.35m			RIG. WHITETHORN		COMPLETION DATE 12.8.75		
System	Series	Stage	Zone	Drilled Depth (metres)	Graphic Log	Cores	Lithological Description	Litho-strat	Remarks
CRETACEOUS	Lower	APTIAN (Lower)	<u>forbesi</u>	70			MUDSTONE, olive brown-grey, fossiliferous with occasional calcareous nodules. <u>Deshayesites</u> cf. <u>forbesi</u> Casey at 67.60m	Atherfield Clay Group	Drilled by shell and auger to 12.00m by SF core barrel to 76.35m For details of micro-palaeontology see Rep. Inst. Geol. Sci., No. 77/7 p 12
							T.D. 76.35m		
				80					
				90					
				100					
				110					
				120					

Borehole No. 75/36				1: 250,000 Sheet Area WIGHT				I.G.S. Reg. No. 50/02/229			
LAT. 50° 14.26' N				LONG. 1° 8.90' W				BLOCK NUMBER 98 - 20			
WATER DEPTH 58.00 - 60.10m				TOTAL DEPTH BELOW SEABED 3.70m				RIG. WHITETHORN		COMPLETION DATE 18.7.75	
System	Series	Stage	Zone	Drilled Depth (metres)	Graphic Log	Cores	Lithological Description		Litho-strat	Remarks	
Recent							SAND, gravelly.			Drilled by shell and auger to 3.50m by SF core barrel to 3.70m Abandoned due to strong tidal currents For details of micro-palaeontology see Rep. Inst. Geol. Sci., No 77/7 p 12.	
CRETACEOUS	Lower	RYAZANIAN					MUDSTONE, dark-grey and grey green, with listric surfaces. Laminated and micaceous T.D. 3.70m		Durlston Formation		
				10							
				20							
				30							
				40							
				50							
				60							

Borehole No. 75/37				1: 250,000 Sheet Area WIGHT				I. G. S. Reg. No. 50/01/105			
LAT. 50° 14.38' N				LONG. 0° 51.02' W				Block Number 99 - 16			
WATER DEPTH 53.00 - 56.30m				TOTAL DEPTH BELOW SEABED 61.45m				RIG. WHITETHORN		COMPLETION DATE 21. 7. 75	
System	Series	Stage	Zone	Drilled Depth (metres)	Graphic Log	Cores	Lithological Description		Litho-strat	Remarks	
Recent							GRAVEL, sandy with flints.			Drilled by shell and auger to 3.20m by SF core barrel to 13.80m by rock roller to 14.55m by SF core barrel to 22.15m by PQ wire line to 61.45m For details of micro-palaeontology see Rep. Inst. Geol. Sci., No 77/7, p 10	
C R E T A C E O U S	L o w e r	R Y A Z A N I A N - B A R R E M I A N		10			MUDSTONE, grey-green with purple mottling, interbedded with grey, friable, crossbedded sands.		W e a l d e n S e r i e s		
							SANDSTONE, pale grey green, fine grained, indurated.				
							NO RECOVERY				
							SANDSTONE, a. a.				
				20			MUDSTONE, green with purple red-brown mottling, sand in places.				
				30			MUDSTONE, pale green, with interbedded sandy layers, brown mottling, carbonaceous fragments and plant debris.				
				40			MUDSTONE, variegated, grey-brown, purple mottling, calcareous, with sandy laminae.				
				50			SANDSTONE, light grey, fine to coarse grained, friable, interbedded with variegated mudstones, a. a. carbonaceous fragments and pyritised wood present throughout.				
				60							
										Borehole terminated at 61.45m in similar strata to that depicted here	

Borehole No. 75/38				1:250,000 Sheet Area WIGHT				I.G.S. Reg. No. 50/01/106			
LAT. 50° 31.42' N				LONG. 0° 19.87' W				BLOCK NUMBER 99 - 14			
WATER DEPTH 59.70 - 65.20m				TOTAL DEPTH BELOW SEABED 62.15m				RIG. WHITETHORN		COMPLETION DATE 28.7.75	
System	Series	Stage	Zone	Drilled Depth (metres)	Graphic Log	Cores	Lithological Description		Litho-strat	Remarks	
Recent							GRAVEL, sandy			Drilled by shell and auger to 8.60m by SF core barrel to 16.30m by rock roller to 17.00m by PQ wire line to 62.15m	
							NO RECOVERY				
TERTIARY	Eocene	BARTONIAN	W. (R) perforata	10			CLAY, dark grey-green, sandy in places.		Upper Barton and Headon beds	For details of micro-palaeontology see Rep. Inst. Geol. Sci., No 77/7, p. 10	
							NO RECOVERY				
				20			CLAY, green-grey, sandy in places.				
							LIMESTONE, sandy, green-grey, indurated, glauconitic and calcareous				
							CLAY, green, sandy in places and very fossiliferous.				
							LIMESTONE, sandy, grey-green, calcareous, bored, glauconitic, very fossiliferous.				
				40			CLAY, grey-green, glauconitic and fossiliferous.				
							LIMESTONE, sandy grey-green, calcareous bored, glauconitic and very fossiliferous.				
							CLAY, grey green, glauconitic and fossiliferous.				
							LIMESTONE, sandy grey-green, calcareous bored, glauconitic and very fossiliferous.				
			50			CLAY, grey green, glauconitic and fossiliferous.		Lower Barton beds	Borehole terminated at 62.15m in similar strata to that depicted.		
						LIMESTONE, sandy grey-green, calcareous bored, glauconitic and very fossiliferous.					
				60			CLAY, grey green, glauconitic and fossiliferous.				

BOREHOLES IN THE SOUTHERN NORTH SEA

1 : 250,000 GEOLOGY MAPS

**EAST ANGLIA
FLEMISH BIGHT
SPURN
INDEFATIGABLE
TYNE TEES
CALIFORNIA
FARNE**

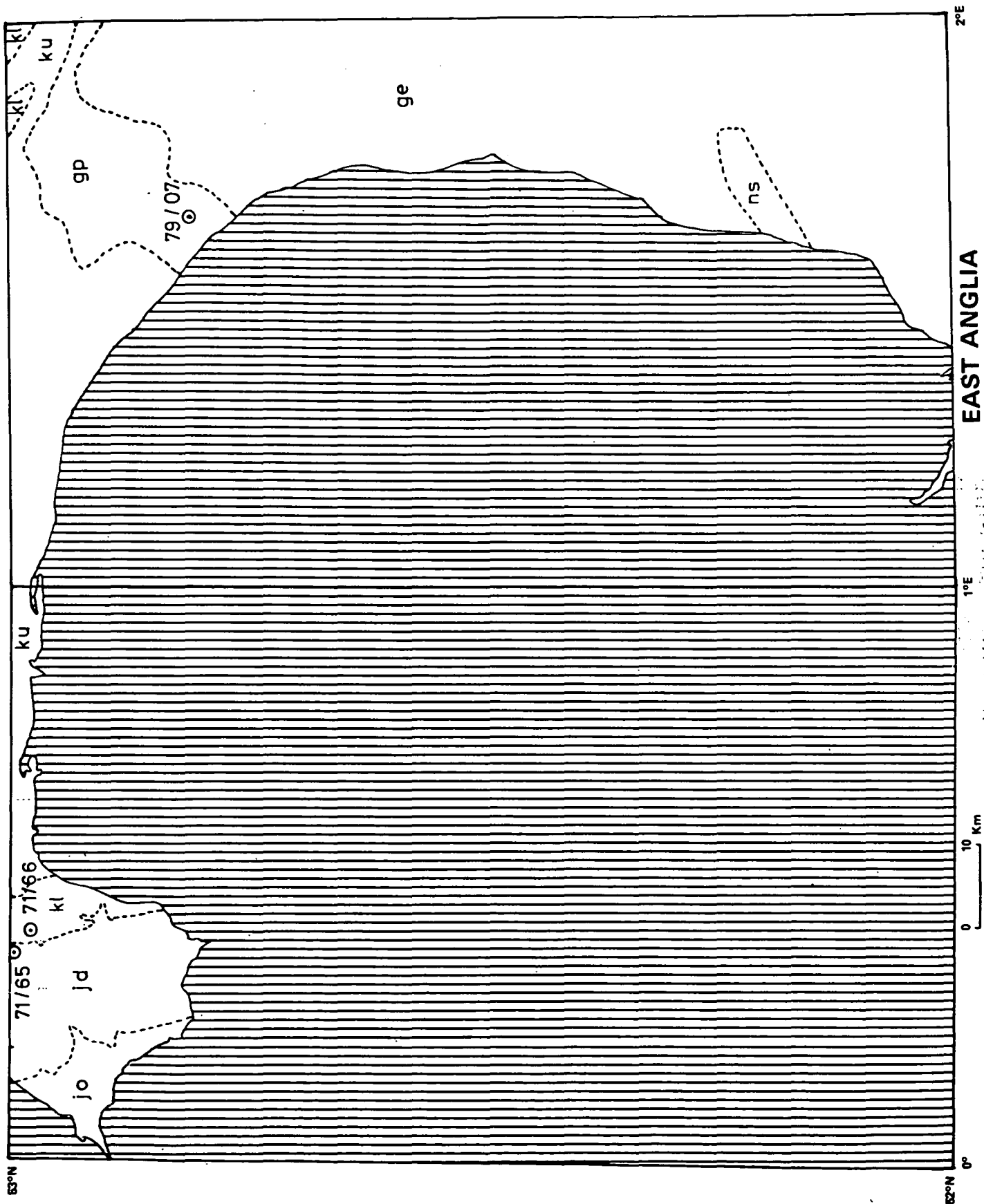
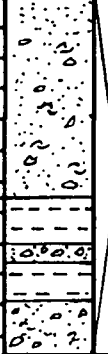
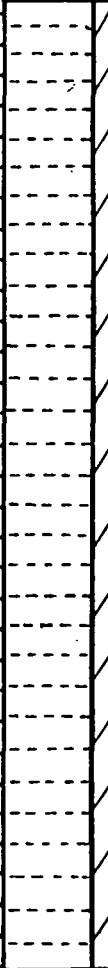
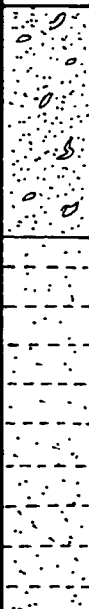

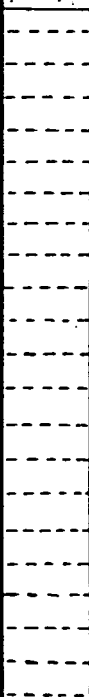


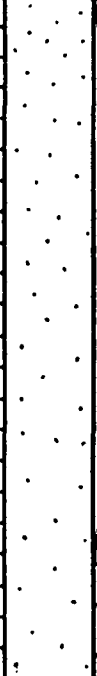





fig 19





Borehole No		71/65		Area EAST ANGLIA		Block No		51 - 3	
Latitude				52 59.74 N		I.G.S. regd No 52/00/376			
Longitude				00 21.70 E		Water Depth		33 m RIG WHITETHORN	
Other Position Fixing Methods				Objectives Stratigraphic					
Radar Ranging				Spud Date 11.12.71 Completion Date 12.12.71					
Decora red H10.24 purple D67.0				Status Completed Final Depth bs.b. 43 m					
Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
QUATERNARY		10				SAND & GRAVEL brown, shelly, well graded.			
						CLAY grey, silty, laminated.			GRAVEL
						SAND & GRAVEL, brown, shelly, well graded.			CLAY, grey silty laminated
JURASSIC (KIMBERIDGEAN)		20 30 40				MUDSTONE dark grey.			
						END OF BOREHOLE			
		50							

Borehole No	71/66	Area	EAST ANGALIA	Block No	51-3
Latitude	52° 58' 53" N	I.G.S. regd No 52/00/377			
Longitude	0° 24' 04" E	Water Depth 19-22m Rig Whitethorn			
Other Position Fixing Methods	Objectives Stratigraphic				
Radar Ranging		Spud. Date 13.12.71 Completion Date 14.12.71			
Deca red H12.35 purple D63.72		Status Completed Final Depth bs.b. 45m			

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
PLEISTOCENE AND RECENT						<u>GRAVEL</u> , fine; sandy.			
						<u>CLAY</u> , silty, gray brown and sand.			
	SALSBY SANDSTONE	20				<u>SANDSTONE</u> gray, slightly calcareous.			
JURASSIC	KIMMERIDGE CLAY	30				<u>MUDSTONE</u> , gray to dark gray, with argillaceous carbonate bands up to 8cm thick, some shells and shell debris.			
		40							
		50				End Of Borehole			

Borehole No 79/7	79/7A*	Area EAST ANGLIA	Block No 52 - 9
Latitude 52° 48.15'N	*52° 48.10'N	U.T.M. Grid I.G.S. regd. No. 52/+01/286/287*	
Longitude 01° 39.23'E	*01° 39.70'E	Water Depth 17 M	Rig SURVEYOR
Other Position Fixing Methods		Objectives Stratigraphic	
		Spud Date 26.8.79	Completion Date 1.9.79
		Status Completed	Final Depth bs.b. 68.20 M

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
PLEISTOCENE TO RECENT		10				<u>SAND</u> grey, medium to coarse, shelly.			Age - lower Eocene / Upper Palaeocene (30.47 - 30.78m) Age - Upper Palaeocene (36.46 - 53.6m) Age - ? Upper Palaeocene (61 - 61.2m) Age - Indeterminate (65.59 - 65.83m)
		20							79/7 drilled to 24 M, but was abandoned because of drilling difficulties
PALAEOCENE		30				<u>CLAY</u> grey-brown, stiff silty with darker green bands			
		40							
		50							

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
PALAEOCENE		50				<u>CLAY</u> grey-brown, stiff silty with darker green bands.			
						<u>LIMESTONE</u> grey-green glauconitic, silty			
		60				<u>SILTSTONE</u> grey-green with bands of clayey sandstone.			
						<u>SAND</u> grey-green fine with shell debris.			
UPPER CRETACEOUS	CHALK					CHALK, white, soft with flints.			
		70				END OF BOREHOLE			
		80							
		90							
		100							

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AREA EAST ANGLIA

SUMMARISED BOREHOLE LOG

Ref.

Author

52/+01/286

M. Parkin

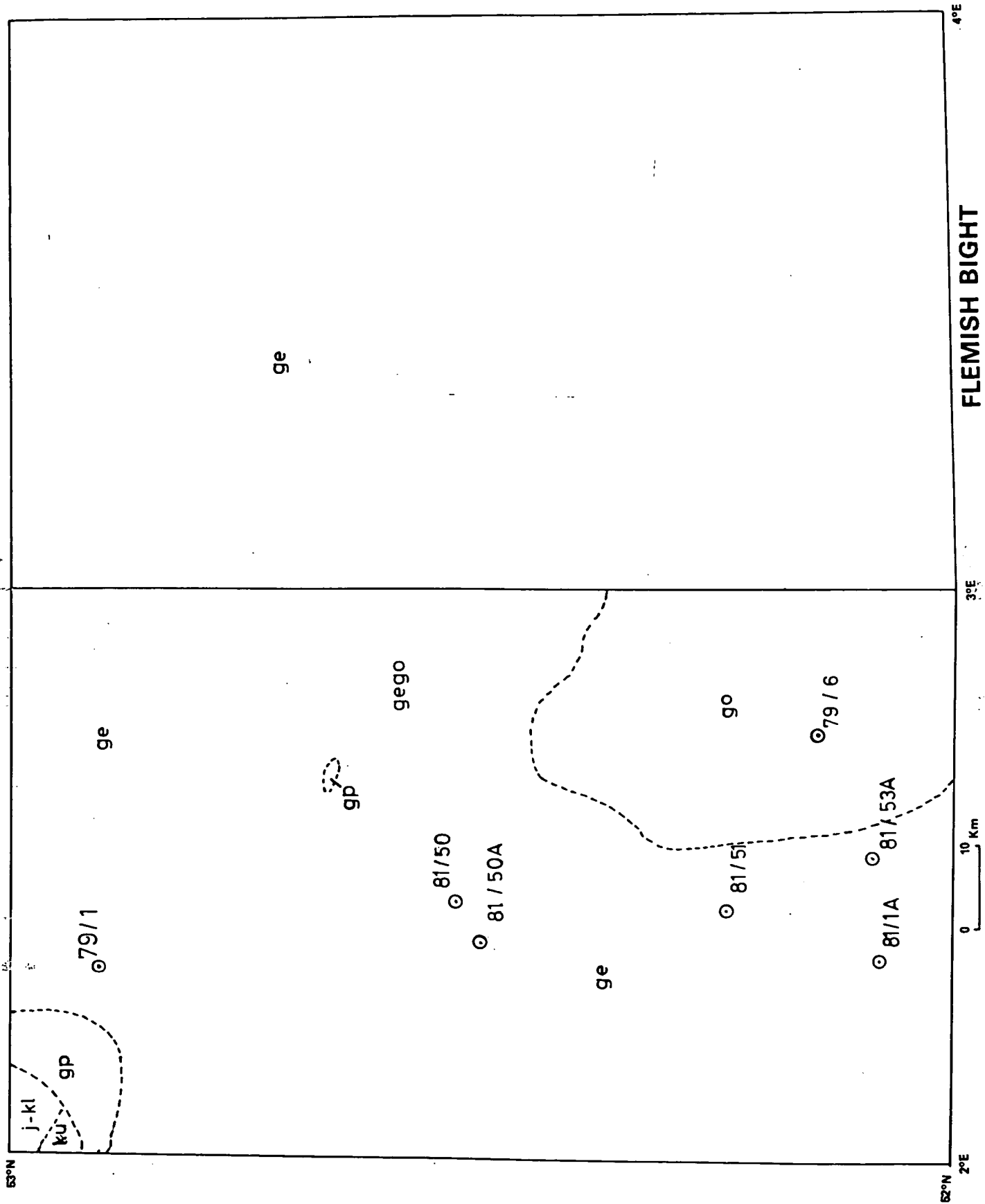


fig 20

Borehole No	79/1A, 1B, 1C	Area	FLEMISH BIGHT	Block No	53/2
Latitude	52° 54' 70" N	IGS REG. NO. +52/+02/59			
Longitude	02° 19' 96" E	Water Depth	42 m.	Rig	SURVEYOR
Other Position Fixing Methods		Objectives STRATIGRAPHIC			
DECCA MAIN CHAIN		Spud Date 23.7.79 Completion Date 26.7.79			
DECCA PULSE 8		Status Completed Final Depth bs.b. 90.22 m.			








Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
PALAEOGENE		10		OPEN HOLE		Sand; Fine grained, greenish grey, clayey, unconsolidated at top becoming firm at base.			Age - Holocene (surface - 2.7m) Age - ? Middle Pleistocene (12.5 - 13.71m) Age - lower Pleistocene (71.93 - 72.13m)
		20				Sand, fine, clayey, greenish grey, with shells, some gravel, trace of clay.			
		30				Shell gravel, trace fine sand.			
		40							* Micropal.
		50				Clay, pale grey, slightly silty, shelly.			* Micropal.

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
PALAEOGENE — PLEISTOCENE		50				Sand, fine grained			
						Shell gravel			
		60				Sand, pale grey			
						Clay			* Micropal.
		70				Clay, grey, sandy.			* Micropal.
						? Shell gravel. (? Cavings from higher in borehole)			* Micropal. Result Micropal. Dinoflagellate cysts of Pleistocene & Palaeogene with reworked Jurassic.
		80							
			No Information						
		90				Total depth 90.22 m			
		100							

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+52 / +02 / 59	A.C.

Borehole No	79 / 06	Area	FLEMISH BIGHT	Block No	53 - 29
Latitude	52° 08.43 N	I.G.S. regd No		52/02/427	
Longitude	2° 44.29 E	Water Depth	40 M	Rig SURVEYOR	
Other Position Fixing Methods		Objectives Stratigraphic			
		Spud Date 22.8.79 Completion Date 24.8.79			
		Status Completed Final Depth bs.b. 200.25 M			

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
P L E I S T O C E N E		10				<u>SAND</u> greenish grey, fine to medium slightly muddy.			SAMPLES COLLECTED AT 3.05 M INTERVALS USING DRIVEN SAMPLE TECHNIQUES Age - Pleistocene (69.5m) Age - middle Oligocene - Rupelian (72.3 - 124.2m) Age - Late Eocene - Bartonian (127.1 - 139.3m) Age - Middle Eocene (142.3 - 199.9m).
		20							
		30				<u>SAND</u> olive green to dk olive green, very fine to fine silty, muddy with intercalations of soft, olive green clay - traces of glauconite.			
		40							
		50							

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
P L E I S T O C E N E		50				<u>SAND</u> as above			Samplers collected at 3.05m intervals. Using driven sample techniques.
						<u>CLAY</u> dk olive grey, slightly silty, trace of glauconite.			
		60				<u>SAND</u> , olive grey, very fine, partings of silty mud very calcareous, trace of shell.			
						<u>SILTY CLAY</u> dk greyish green, stibb, micaceous, with glauconite, trace of shell.			
O L I G O C E N E		80							
		90				<u>CLAY</u> , dk greyish-brown, stibb or very stibb. Slightly silty.			
		100							

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AREA FLEMISH BIGHT

SUMMARISED BOREHOLE LOG

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52/02/427	M. Parkin

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palæo	Lithological Description	Casing	Electric Logs	Remarks
U P P E R E O C E N E O L I G O C E N E		100				<u>CLAY</u> as above			Samples collected at 3.05 m intervals. Using driven sample techniques.
		110							
		120							
		130							
U P P E R E O C E N E		140				<u>SAND</u> dk olive grey, very fine - fine, slightly muddy, silty, abundant glauconite to 135 m			
		150							
U P P E R E O C E N E						<u>SAND</u> as above, interbedded with muddy silt or soft mud- dk olive green.			
U P P E R E O C E N E						<u>SAND</u> , dk olive grey, very fine - fine, slightly muddy, silty			

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AREA FLEMISH BIGHT

SUMMARISED BOREHOLE LOG



Ref.: 52/02 ⁺ /427	Author: M. Parkin
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Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
E N E C O		150				Sand as above interbedded with muddy silt.			Sample collected at 3.05 m intervals, using driven sample techniques
		160				SAND, dk olive grey, very fine - fine, slightly muddy, silty.			
		170				CLAY, dk olive grey, slightly silty, locally abundant glauconite			
		180							
		190				SAND, dk olive green, very fine - fine grained			
		200							Mudstone dk olive green, fissile, sl silty, trace of glauconite.
						END OF BOREHOLE			<div> <div>INSTITUTE OF GEOLOGICAL SCIENCES</div> <div>AREA FLEMISH BIGHT</div> <div>SUMMARISED BOREHOLE LOG</div> <div> <div>Ref.</div> <div>52/02/427</div> </div> <div> <div>Author</div> <div>M. Parkin</div> </div> </div>

Borehole No	81/1a	Area	FLEMISH BIGHT	Block No	53 - 27
Latitude	52° 04' 70" N	I.G.S. regd No 52/02/470			
Longitude	2° 21' 63" E	Water Depth	43 m	Rig	MARINER
Other Position Fixing Methods		Objectives			
DECCA (50)		Stratigraphic			
SAT NAV		Spud Date 29.9.81 Completion Date 30.9.81			
		Status Uncompleted Final Depth bs.b. 34.2 m			

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
TERTIARY ?						<u>SAND</u> brown, medium grained with shells.			Age - Holocene (surface - ~15m) Age - ? Holocene (~15 - ~22m) Age - ? Neogene (~22m - end)
						<u>SAND</u> , green, fine grained, muddy, glauconitic, with abundant fine shell.			
						END OF BOREHOLE			Hole abandoned due to bad weather

Borehole No		81/50		Area FLEMISH BIGHT		Block No 53 - 13			
Latitude 52° 31.43 N				I.G.S reg No 52/02/466					
Longitude 2° 27.30 E				Water Depth 49 m		Rig MARINER			
Other Position Fixing Methods				Objectives Stratigraphic					
DECCA (2E)				Spud Date 25.9.81 Completion Date 26.9.81					
SAT NAV				Status Uncompleted Final Depth bs.b. 60.3 m					
Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
Q	Holoocene MIDDLE TO UPPER PLEISTOCENE LOWER PLEISTOCENE	0				SAND, yellow brown, medium grained with shells			
		10				SAND, grey green, muddy with shells, interbedded with clay, soft, grey, silty. Abundant wood fragments			
		20				SAND, olive green muddy, fine grained, shelly			
		30							
		40							
		50							

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
Q U A T E R N A R Y		50				<u>SAND</u> olive green, muddy fine grained.			Hole abandoned due to bad weather
		60				END OF BOREHOLE			
		70							
		80							
		90							
		100							

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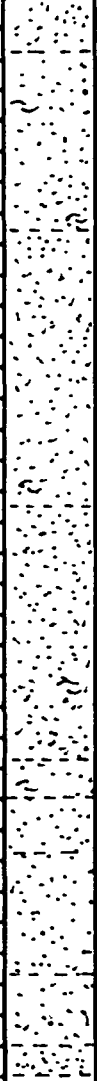

AREA FLEMISH BIGHT

SUMMARISED BOREHOLE LOG

Ref.	Author
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Borehole No	81/50 A	Area	FLEMISH BIGHT	Block No	53 - 13
Latitude	52° 30.87 N	I.G.S. regd No		52/02/467	
Longitude	2° 27.44 E	Water Depth	51 m	Rig	MARINER
Other Position Fixing Methods		Objectives			
Decca (2E)		Stratigraphic			
SAT NAV		Spud Date 1.10.81 Completion Date 2.10.81			
		Status Uncompleted Final Depth bs.b. 113.84 m			

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
		10				OPEN HOLE			Age - lower Pleistocene (-110.1m) Age - ? Neogene (110.1-113.7m) Age - lower to middle Eocene (113.7m - end)
MIDDLE PLEISTOCENE		20				SAND, pale gray-green, fine to medium, shell debris. (Hammer Sample only)			
		30				OPEN HOLE			
		40							
		50							





Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palæo	Lithological Description	Casing	Electric Logs	Remarks
Q U A T E R N A R Y		50				OPEN HOLED			
		60				<u>SAND</u> dk olive green, fine grained, micaceous, shell debris with local silt & clay laminae			
		70							
		80							
		90							
		100				SAND and CLAY, interlaminated olive grey, clay moderately st. ss.			

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Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palæo	Lithological Description	Casing	Electric Logs	Remarks
QUATERNARY		100				SAND and CLAY, inter laminated as above			Hole abandoned due to bad weather.
		110				Sand, fine grained, green, shelly with abundant glaucon- ite.			
1? TERTIARY						END OF BOREHOLE			
		120							
		130							
		140							
		150							

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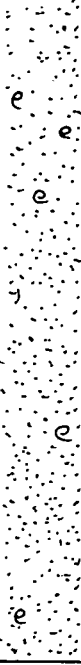

Borehole No 81 / 51		Area FLEMISH BIGHT		Block No 53 - 23	
Latitude 52° 14.28 N			I.G.S. regd No 52/02/468		
Longitude 2° 26.84 E			Water Depth 45.1 m Rig MARINER		
Other Position Fixing Methods			Objectives STRATIGRAPHIC		
DECCA			Spud Date 28.9.81 Completion Date 29.9.81		
SAT NAV			Status Completed Final Depth bs.b. 106.3 m		

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
Q U A T E R N A R Y			e			<u>SAND</u> , dk olive green, very fine, muddy with shell debris			Age - Holocene (Surface - ~2m) Age - lower Pleistocene (~2 - ~49m) Age - upper Pliocene (~49 - ~89.7m) Age - lower Pliocene (~89.7m - end).
			e						
			e						
			e						
			e						
			e						
			e						
			e						
			e						
			e						
			e			<u>SAND</u> and <u>CLAY</u> interlaminated, sand, green with shells, clay grey brown, stiff			
			e						
			e						
			e						
			e						
			e						
			e						
			e						
			e						
			e						
			e			<u>CLAY</u> , grey brown, stiff, sandy laminae, shells.			
			e						
			e						
			e						
			e						
			e						
			e						
			e						
			e						
			e						

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
QUATERNARY		50				CLAY as above			
TERTIARY?	NEOGENE?	60				SAND, olive green - yellow green, fine grained, muddy, silty with abundant glauconite and debris			
		70							
		80							
		90							
		100				SAND, green, fine grained, silty, micaceous, abundant carbonate, glauconite. Some clay laminae			
TERTIARY	MIDDLE EOCENE					END OF BOREHOLE			
							INSTITUTE OF GEOLOGICAL SCIENCES AREA FLEMISH BIGHT SUMMARISED BOREHOLE LOG		
							Ref.	Author	
							52/02/468	M. Parkin	

Borehole No		81/53 : 53 A		Area FLEMISH BIGHT		Block No		53 - 28	
Latitude		52° 05.05 N		I.G.S. regd No		52/02/469			
Longitude		2° 32.93 E		Water Depth		40 m		Rig MARINER	
Other Position Fixing Methods				Objectives		Stratigraphic			
DECCA (50)				Spud Date		5.10.81		Completion Date 6.10.81	
SAT NAV				Status Uncompleted		Final Depth bs.b.		77 m	

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
TERTIARY						<p><u>SAND</u>, yellow brown to greenish grey medium grained with abundant shell sand & gravel.</p>			<p><u>Holocene</u> (Surface - ~17m) Age - lower Pleistocene (~17 - ~37m) Age - Middle to Upper Eocene (~37 - ~70m) Age - Middle Eocene (~70m - end)</p>
						<p><u>SAND</u> and <u>CLAY</u>, inter laminated, clay-dk olive grey, stiff. Sand-dk greenish grey, very fine</p>			<p>81/53 terminated due to loss of pilot bit on entering the sea bed template</p>
						<p><u>SAND</u>, greenish grey, fine grained, muddy, abundant glauconite, scattered shells</p>			

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palæo	Lithological Description	Casing	Electric Logs	Remarks	
T E R T I A R Y		50				<u>SAND</u> , greenish grey, fine grained, muddy, abundant glauconite.			Hole Terminated due to bad weather.	
		60								<u>SILT</u> , green grey, muddy, glauconitic, micaceous
		70								END OF BOREHOLE
		80								
		90								
		100								

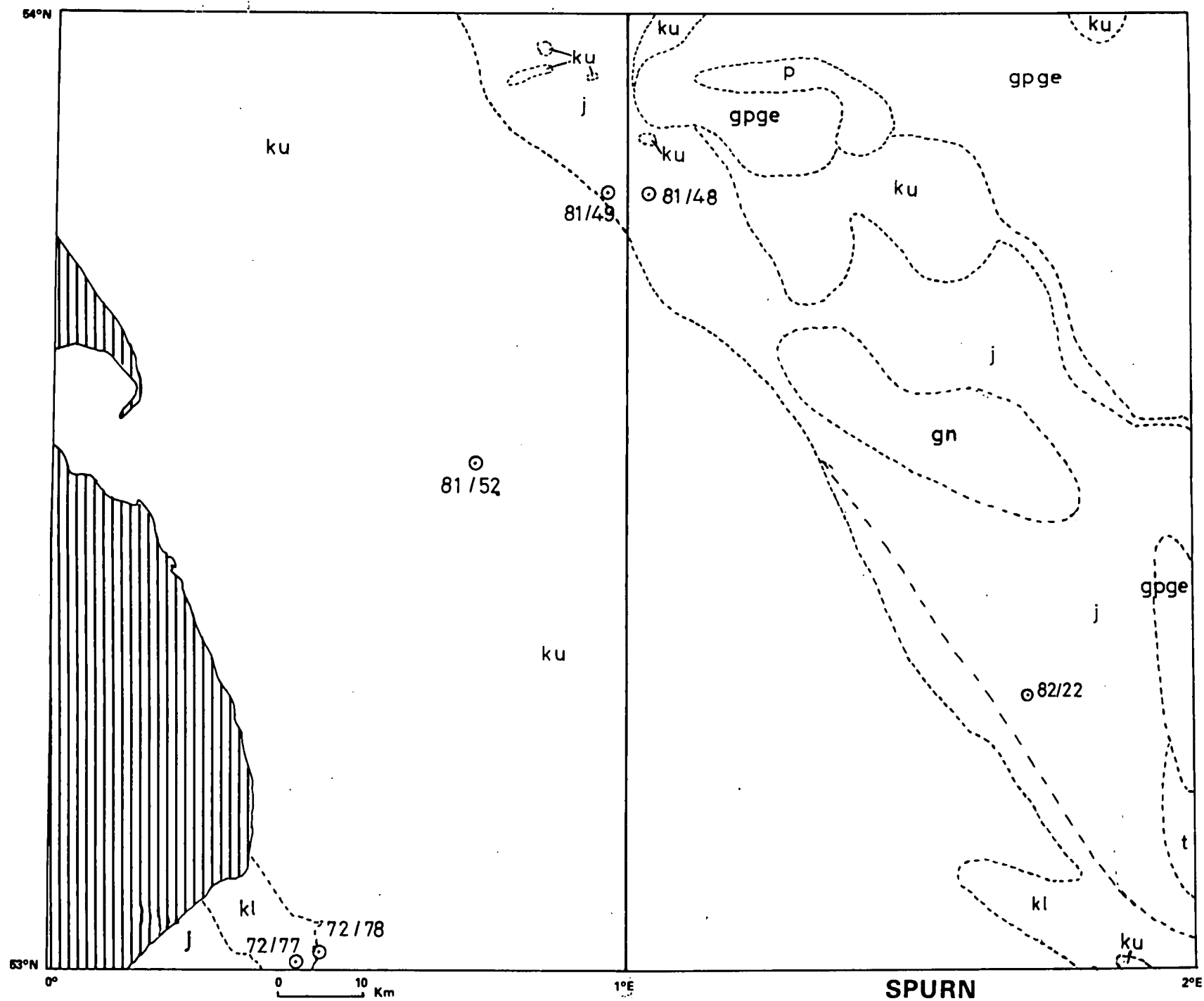
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AREA FLEMISH BIGHT

SUMMARISED BOREHOLE LOG

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fig 21



Borehole No	72 / 77 A.B	Area	S P U R N	Block No	4 7 - 2 8
Latitude	53° 0.51 N	I.G.S. regd No 53/00/635			
Longitude	0° 25.88 E	Water Depth 26.6 - 31m Rig Whitethorn			
Other Position Fixing Methods		Objectives Stratigraphic			
Decca 5B red H16.20 purple D64.00		Spud Date 12.12.72 Completion Date 15.12.72			
Radar Ranging		Status Completed Final Depth bs.b. 53.20m			

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
L O W E R C R E T A C E O U S									SAND and GRAVEL Recent
		10							
		20							
		30							
		40							
		50							




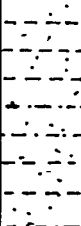
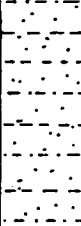
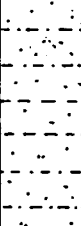
Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
L CRET		50				Mudst, Sst, Siltst.			
JURASSIC						MUDSTONE, grey			
						END OF BOREHOLE			
		60							
		70							
		80							
		90							
		100							

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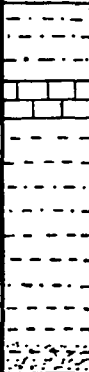
AREA S P U R N

SUMMARISED BOREHOLE LOG

Ref.	Author
53/00/635	M. Parbin

Borehole No		72 / 78		Area		S PURN		Block No		47 - 28			
Latitude				53° 1.21 N				I.G.S. regd No				53/00/636	
Longitude				0° 27.54 E				Water Depth				16m - 20.2m Rig Whitethorn	
Other Position Fixing Methods								Objectives				Stratigraphic	
Dacca 58 red 18.80 purple D63.25								Spud. Date				15.12.72 Completion Date 17.12.72	
Radar Ranging								Status Completed				Final Depth bs.b. 56.15m	
Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description		Casing	Electric Logs	Remarks			
UPPER CRETACEOUS						CHALK, white.				Sand and gravel. ABSENT			
		10				Chalk, red and mudstone, with conglomerate at base.							
LOWER CRETACEOUS		20											
		30				Grey and brown, mudstone sandstones and siltstones; limonite oolites; down to 56.15m (END OF BOREHOLE)							
		40											
		50											

Borehole No	81 / 48	Area	S P U R N	Block No	48 - 6
Latitude	53° 48.10 N	I.G.S. regd No 53/01/549			
Longitude	01° 01.36 E	Water Depth 25.6 - 27.2m Rig MARINER			
Other Position Fixing Methods			Objectives Stratigraphic		
SAT NAV		Spud Date 22.9.81 Completion Date 23.9.81			
Decca 5 B		Status Completed Final Depth bs.b. 27.20m			

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
Q U A T E R N A R Y		0 5 10				CLAY, reddish brown, sandy, pebbly, stiff. (TILL)			
M I D D L E J U R A S S I C BATHONIAN / CALLOVIAN	CORNBRASH	20				Limestone, grey, bioclastic CLAY, grey, silty bands pyrite, sandstone at base.			
		30 40 50				END OF BOREHOLE			


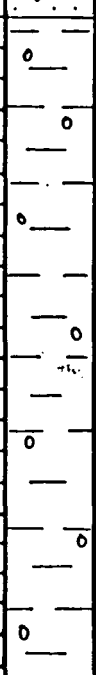
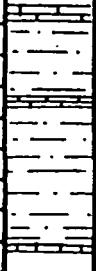
Borehole No	81/49	Area	S P U R N	Block No	47 - 10
Latitude	53° 48.14' N	I.G.S. regd No		53/00/1231	
Longitude	0° 58.59' E	Water Depth		32 - 36m Rig MARINER	
Other Position Fixing Methods		Objectives		Stratigraphic	
SAT. NAV.		Spud Date		23.9.81 Completion Date 25.9.81	
Decca 5B		Status Completed		Final Depth bs.b. 24m	

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
QUATERNARY		10				<u>SAND</u> , very fine grained, dark grayish			Age - Quaternary (Sungate - 11.3m) Age - ? Upper Jurassic (11.3m - and).
UPPER JURASSIC (KIMMERIDGIAN)		20				<u>MUDSTONE</u> , dark gray to black, fissile, fossiliferous, calcareous, white calcite laminae, strong H ₂ S smell.			
		30					END OF BOREHOLE		
		40							
		50							

Borehole No	81/52,52A	Area	S P U R N	Block No	47 - 19
Latitude	53° 31.85' N	- I G S regd No +53/+00/1232			
Longitude	0° 44.29' E	Water Depth	20.2 m	Rig	MARINER
Other Position Fixing Methods	Objectives Stratigraphic				
SAT NAV	Spud Date 3.10.81 Completion Date 4.10.81				
Dacca 5 B	Status Completed Final Depth bs.b. 50 m				

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
L A T E D E V E N S I A N		10				CLAY, brown, silty, pbbly, moderately calcareous (Till), interbedded with gravelly sand.			81/52 terminated at 9.8m due to twist off
						SAND, olive-gray, fine to medium, muddy, shell frags, some clay laminae.			
Q U A T E R N A R Y		20				GRAVEL, mainly flint, in matrix of fine sand.			Age - Holocene (surface - 0.5m) Age - late Devensian (0.5 - 13m) Age - Upper Pleistocene (14m - end).
						CLAY, grey brown, stiff with abundant pebbles of chalk, highly calcareous.			
C R E T A C E O U S		40				CHALK oolite friable.			
						END OF BOREHOLE			

Borehole No 82/22		Area SPURN		Block No 48/24	
Latitude 58° 16.97' N			IGS REGISTRATION NUMBER +53/+01/550		
Longitude 01° 42.32' E			Water Depth 35m		Rig Ferder
Other Position Fixing Methods			Objectives Stratigraphic		
Main Chain Decca and Satellite Navigation			Spud Date 28-9-82		Completion Date 29-9-82
			Status Completed		Final Depth bs.b. 50.3m

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
QUATERNARY		10				Sand, dark grey, fine to medium grained, muddy in parts, lithic gravel and shell gravel.			Age - Eemian to Holocene (surface - 21m) Age - Elsterian to Saalian (21 - 42.5m) Age - Lower Bajocian (42.5 - end).
		20				Clay, dark grey, sand, stiff, calcareous, pebbles and gravel, occasional shells. Till			
MIDDLE JURASSIC <i>Lower Bajocian</i>	Lincolnshire Limestone Equivalent	40				Siltstone & mudstone, olive grey-green, strongly calcareous, with beds of very hard grey limestone.			
		50				T.D. 50.3m			

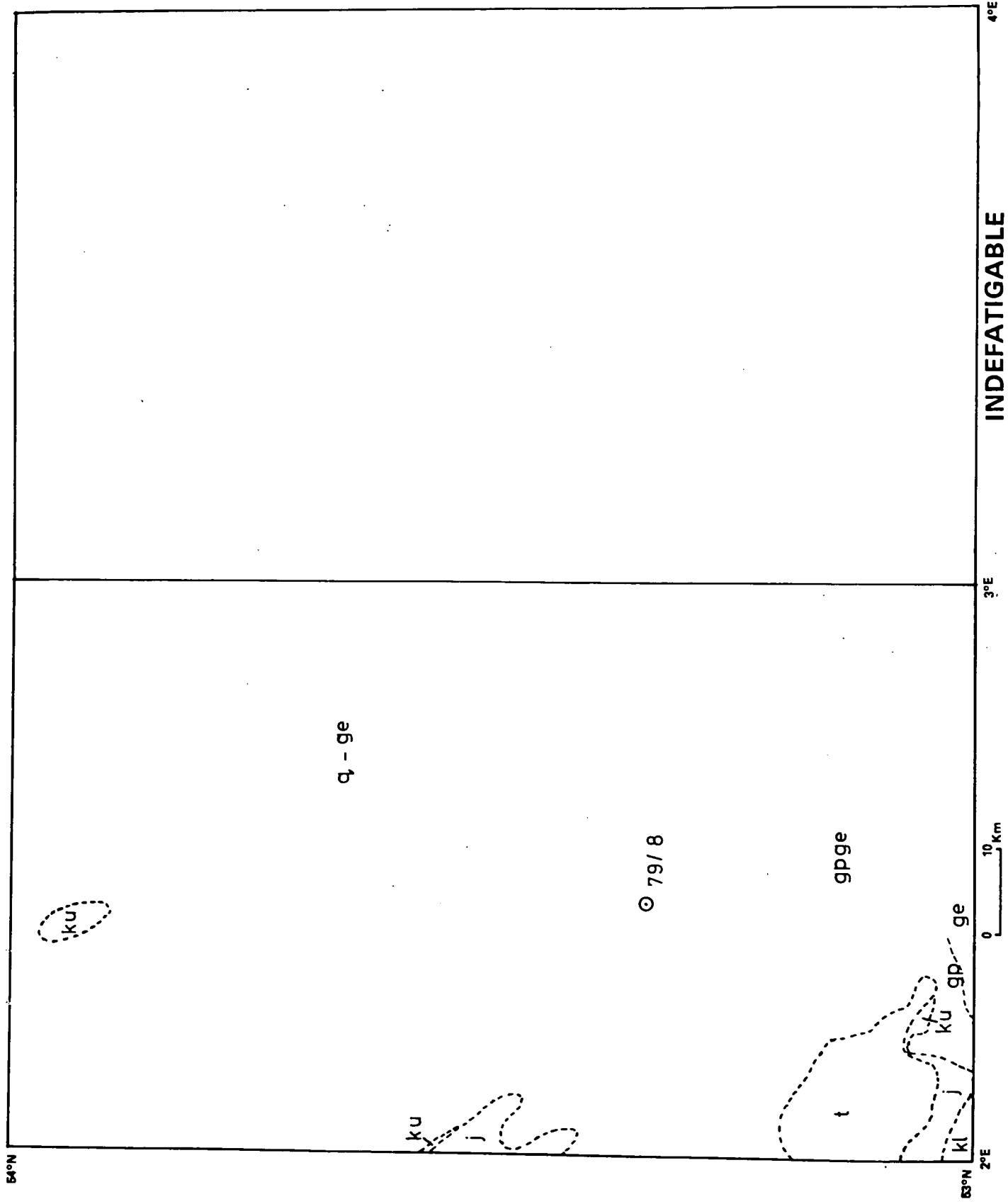
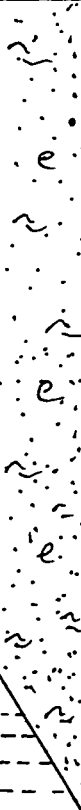


fig 22

Borehole No	79/08	Area	INDIFFATIGABLE	Block No	49/23
Latitude	53° 20.33 N	I.G.S. regd No 53/02/227			
Longitude	2° 25.73 E	Water Depth	21.5m	Rig	SURVEYOR
Other Position Fixing Methods	Objectives Stratigraphic				
		Spud Date	28.8.79	Completion Date	30.8.79
		Status Completed	Final Depth bs.b. 168.33m		

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
Y R A N R E T A U Q						<u>SAND</u> , light-medium brown Very fine, becoming coarser downhole. Abundant coarse bivalve shell debris.			Drilled by Heerema using driven sample techniques; samples collected at 4.58m intervals.
		10							
		20							
		30				<u>CLAY</u> , dk greyish brown, slightly silty, st. b. Brackish-Marine.			
		40				<u>CLAY</u> , dk greyish brown, trace of carbonaceous debris, freshwater glacial clay.			
		50							

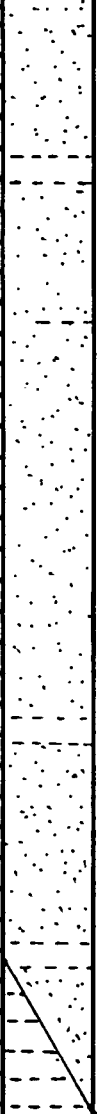
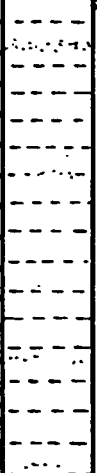
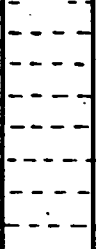
Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palæo	Lithological Description	Casing	Electric Logs	Remarks
Q U A T E R N A R Y		50				CLAY as above.			Driven samples at 4.58 m intervals.
		60				SAND, very fine to fine grained slightly muddy, slightly silty, calcareous, trace of glauconite and shell, few interbeds of clay.			
		70							
		80							
		90							
		100							

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AREA INDICATEABLE

SUMMARISED BOREHOLE LOG

Ref.	Author
53/02/227	M. Parkin

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palæo	Lithological Description	Casing	Electric Logs	Remarks
Q S A T E R R A N P Y		100				<u>SAND</u> , with a few interbeds of clay as above.			Driven samples at 4.58m intervals.
		110							
		120				CLAY, dk gray, slightly silty, slightly calcareous			
		130							
		140							
		150							

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AREA INDEFATIGABLE

SUMMARISED BOREHOLE LOG

Ref.	Author
53/02/227	M. Parkin

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
QUATERNARY		150				<u>CLAY</u> dk grey, stiff as above.			Driven samples at 4.58 m intervals.
		160							
UPPER P. PLEISTOCENE		170				END OF BOREHOLE			Mud, moderately stiff, olive - dk brown inter- laminated with fine sand.
		180							
		190							
		200							

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AREA INDEFATIGABLE

SUMMARISED BOREHOLE LOG

Ref.	Author
53/02/227	M. Parkin

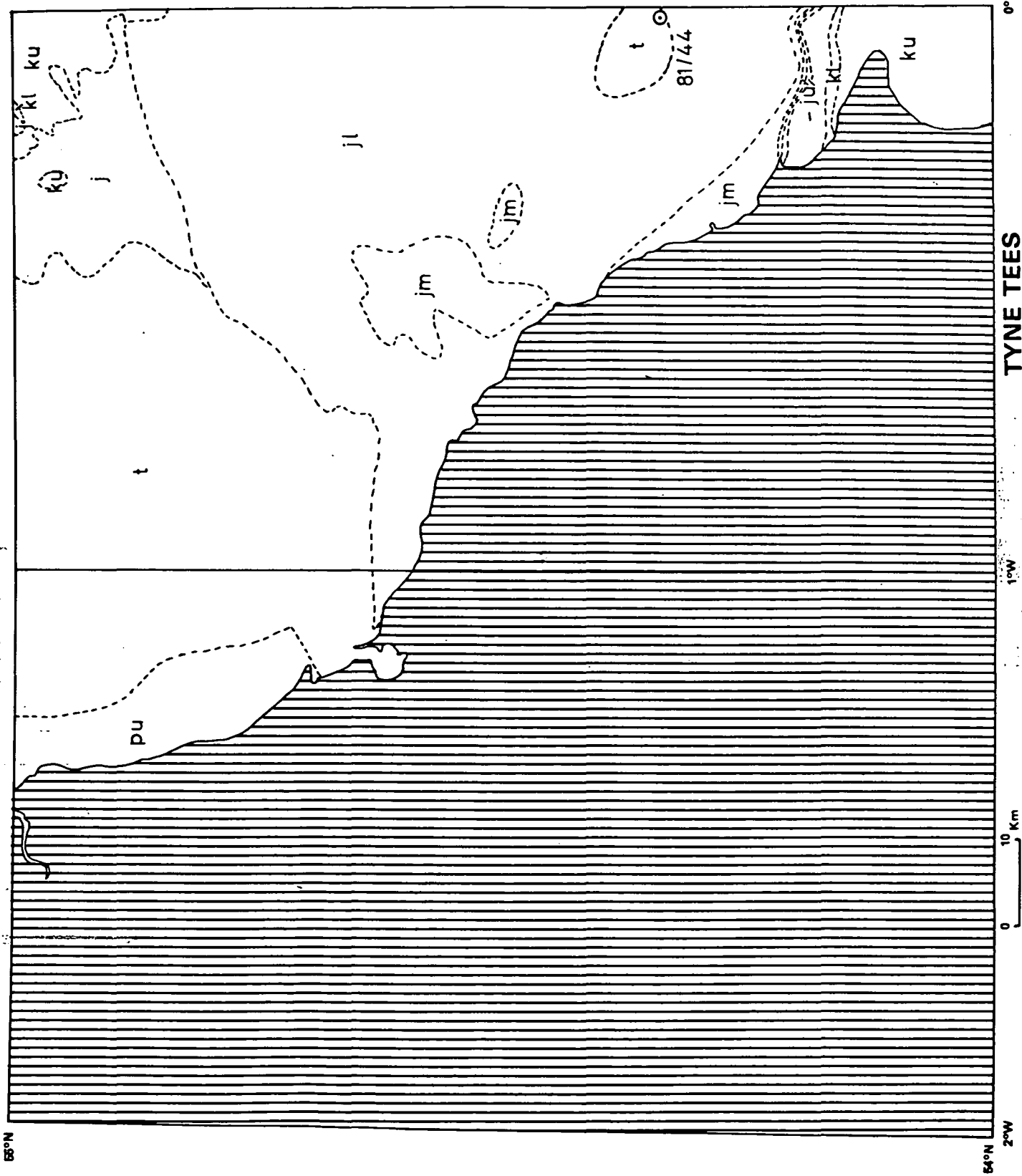


fig 23

Borehole No	81/44	Area	TYNE-TEES	Block No	41/20
Latitude	54° 20.323'N	IGS Reg. No. 54/01/550			
Longitude	0° 00.950'W	Water Depth 49.8-52.9m Rig MARINER			
Other Position Fixing Methods		Objectives To core the Rhaetian			
MAIN CHAIN DECCA		Spud Date	11.9.81	Completion Date	12.9.81
		Status Completed	Final Depth bs.b. 17.10m		



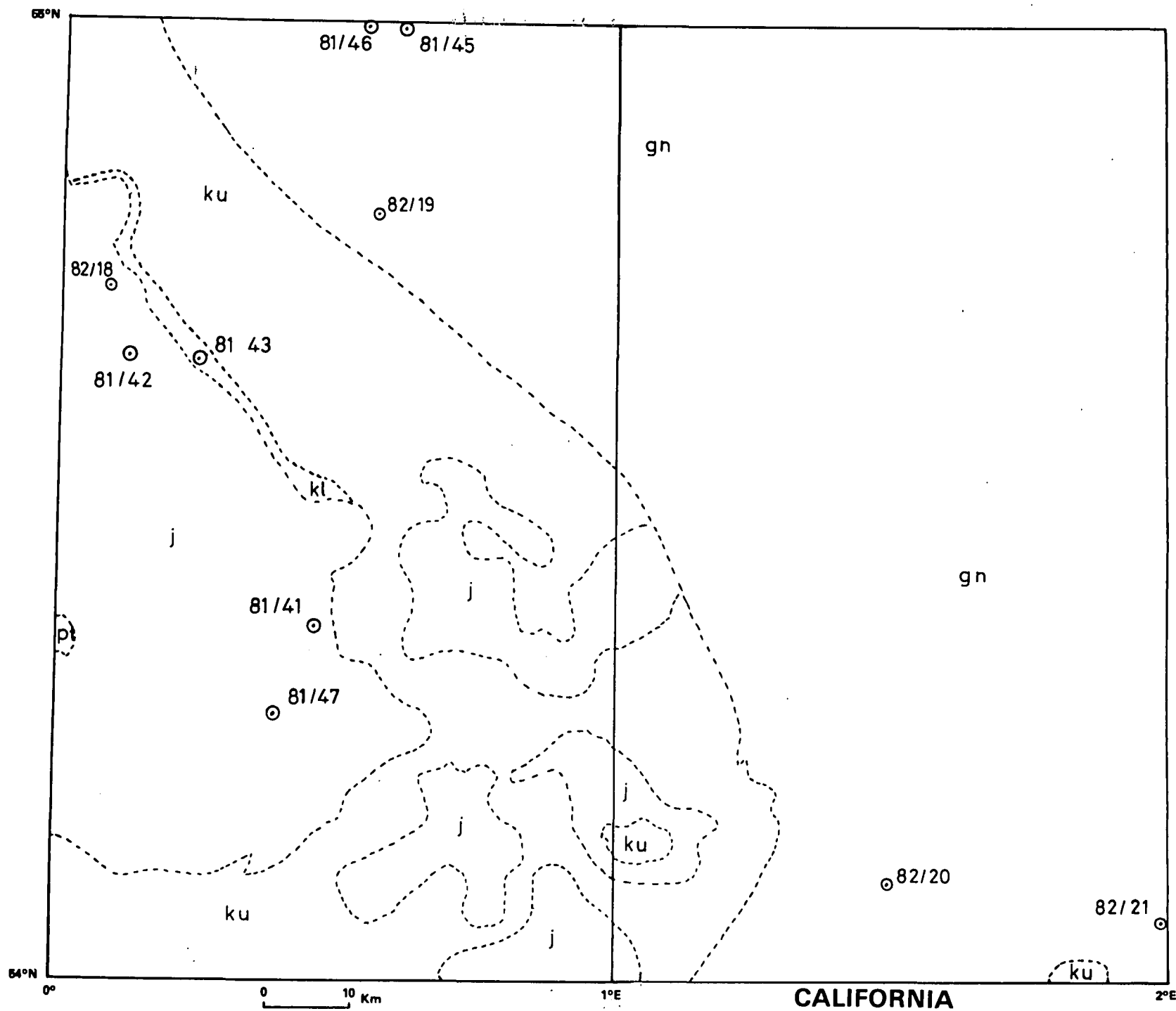


	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palæo	Lithological Description	Casing	Electric Logs	Remarks
TRIASSIC	WINTERTON FORMATION	10				SILTSTONE, lt pinkish grey, blocky non calc, hard dolomitic. CRISTINE, bleached, dark reddish grey, non calc, micaceous, calc, hard blocky. SILTSTONE, dark grey, uniform texture, blocky fracture, quartzitic, al. MUDSTONE, lignitic fragments, micaceous, dk grey, splintery, shaly, pyritic fossil debris. MUDSTONE as above with sandstone, gray fine grained, well sorted, pyritic, quartzitic, non calc, grading to siltstone, lignitic. MUDSTONE, dk grey - black, fissile, finely interbedded with fine sandstone, siltstone. Sandstone, pale grey, to greenish grey very hard, non calcareous, slightly silty, ls. grained. MUDSTONE, greenish grey, fissile non calcareous, dolomitic.			
		20				END OF BOREHOLE			
		30							
		40							
		50							

fig 24



Borehole No. 81/41		Area CALIFORNIA		Block No 42 - 18					
Latitude 54° 22' 197' N		I.G.S regd No 54/+00/593							
Longitude 0° 27' 282' E		Water Depth 54.7 - 56.5 m Rig MARINER							
Other Position Fixing Methods		Objectives Stratigraphic							
MAIN CHAIN DECCA		Spud Date 5.9.81		Completion Date 7.9.81					
		Status Completed		Final Depth bs.b. 67.10m					
System	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
QUATERNARY		10	?					Same	Age - lower kimmeridgian (surface - 46m) Age - Upper Oxfordian (46 - 62.8m) Age - Middle Oxfordian (62.8 - end m).
						CLAY, dk sl. reddish grey, hard, rich mudstone			(Till)
UPPER JURASSIC	KIMMERIDGE CLAY Fm.	20				Mudstone, dk grey, fissile, calc, organic rich, bivalve debris. some lighter, calc bands, silty partings, micaceous.			KIMMERIDGIAN (PALYNO)
						MUDSTONE, v. dk grey, calcareous, uniform, w/td bands of clay, Pyritised bivalves blocky fracture.			
						MUDSTONE, as above.			
						MUDSTONE, as above, alternation of harder and softer bands			
						MUDSTONE, hard, fissile with softer bands, calc, becoming argill. 1st. blocky fracture.			
						LIMESTONE, dark grey, argillaceous, hard bands.			
						MUDSTONE, dk grey to black, v. calcareous, fissile, bivalves & ammonites.			
						MUDSTONE, dk grey, fissile in parts, hard calcareous rich in ammonites, with some non calc. harder bands which are sl. greyer.			
						MUDSTONE, med - dk grey to black fissile to blocky, hard calc, fossiliferous, calcite filled joints.			
						MUDSTONE, as above.			
		50				MUDSTONE, dk grey, very blocky, irregular fine blocky fracture, sl. calc in part, uniform argill. micaceous & lignitic.			

System	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palæo	Lithological Description	Casing	Electric Logs	Remarks
UPPER JURASSIC	KIMMERIDGE CLAY Fm.	50				Mudstone, as above			H-U. OXFORDIAN.
	CORALLIAN Fm.	60				<p>Mudstone, grey, mottled, hard blocky fracture, non-calcareous, bivalves, brachiopods, pyritic, micaceous.</p> <p>Mudstone, as above, silty. Towards base Wood fragments. X laminated.</p> <p>Sandstone, grey, argillaceous, sl. calcareous, calcite veins, and partings, bioturbated, throughout, v. fine grained firm but poorly cemented.</p> <p>Mudstone, grey, silty, micaceous.</p> <p>Sandstone, as above.</p> <p>Mudstone/siltstone.</p> <p>Sandstone, as above.</p> <p>Siltstone/mudstone, grey calc. plant remains.</p> <p>Limestone, irregular top bioturbated.</p> <p>Pale grey hard to very hard well cemented, calcite veins throughout.</p> <p>Mudstone, grey, calc.</p> <p>Limestone, creamy to grey hard coarse grained, bioclastic with oolitic & pisolitic in a sparry darker brown matrix. Oolitic broken & poorly sorted. Calcite veining.</p>			L-M. OXFORDIAN
		70				END OF BOREHOLE			
		80							
		90							
		100							

INSTITUTE OF GEOLOGICAL SCIENCES	
AREA CALIFORNIA	
SUMMARISED BOREHOLE LOG	
Ref.	Author
54/00/593	

Borehole No		81/42		Area		CALIFORNIA		Block No		42/11		
Latitude		54° 39.106'N		IGS Req. No.		54/00/594						
Longitude		0° 6.827'E		Water Depth		71.7 - 73.0m		Rig				MARINER
Other Position Fixing Methods				Objectives		Stratigraphic (Middle Jurassic)						
MAIN CHAIN DECCA				Spud Date		7.10.81		Completion Date		8.10.81		
				Status				Final Depth bs.b.		26.00m		

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
(LOWER-MIDDLE) JURASSIC		10				SILTSTONE, pale grey, v. clayey, fine grained, firm to hard, bioturbated. SANDSTONE, fine, well sorted, quartzose, micaceous, somewhat darker lignitic grains, soft friable non-calcareous. CLAY, lt. grey, mottled bioturbated, non calcareous, lignite band. SANDSTONE, v. lt. grey, v. fine grained, sl. micaceous, non calcareous. CLAY, lt. grey, v. well sorted, uniform. SANDSTONE, as above. CLAY as above. PISOLITE, pale grey cream, pisolites round, coarse-med sand grade, well rounded. MUDDSTONE, pale grey, non calc, soap texture. IRONSTONE, ferruginous, grey, v. hard. MUDDSTONE, dk grey-black, waxy, non calc, ironstone nodules. MUDDSTONE, dk grey-black as above, finely laminated. MUDDSTONE, as above. v. fossiliferous. MUDDSTONE, as above.			Age - Middle Jurassic (Surface - 15.2m) Age Jurassic; lower bias? Driven sample
		20				MUDDSTONE, as above.			ALBENIAN/TOARCAN
		30				END OF BOREHOLE			
		40							
		50							

Borehole No	81/43	Area	CALIFORNIA	Block No	42/12
Latitude	54° 38.919'N	I.G.S. Reg. No.		54/+00/595	
Longitude	0° 14.509'E	Water Depth		65.7-67.4m RIG MARINER	
Other Position Fixing Methods		Objectives Stratigraphic			
MAIN CHAIN DECCA		Spud Date		8.9.81 Completion Date 10.9.81	
		Status COMPLETED		Final Depth bs.b. 93.9m	

System	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
QUATERNARY							NONE	Y ray	
LOWER CRETACEOUS	SPEETON CLAY					CLAY, dk greyish brown, firm, sl. calc sandy, granule to pebble sized matrix supported clasts of dk grey mudstone & chalk. Pebbles at base.			
						CLAY, dk sl. greenish grey, soft, calcareous sl. silty, pyritic, fossiliferous.			
		10				CLAY, med, grey, mottled, bioturbated lighter, than above, very calcareous, sl. bioclastic, silty to very silty.			
						CLAY, grey-pale grey, very calc, stiff, very finely laminated, fissured, silt filled burrows, silty lenses, tiny bivalves.			
		20				CLAY, as above.			
						CLAY, as above, sl. paler, becoming greener calcareous, pale green, glauconitic horizons v. sl. silty small black clarty nodules. bivalves & bryozoans.			
		30							
						CLAY, as above, calc, hard towards top ironstone lenses, bioturbated mottled small fossil fragments throughout			
		40							
						CLAY, as above pale grey, some stiff harder bands less fossiliferous.			
		50							

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
LOWER CRETACEOUS	SPEETON CLAY	50				CLAY, as above, some fossiliferous beds			
		60				CLAY, as above, silty in parts, glauconitic, burrow mottled.			
						Marl, soft limestone, pale gray-white burrowed			HAUTERIVIAN
						CLAY, grey to dark grey, calcareous, burrowed, some paler hard bands.			
						CLAY, lighter mid grey, bioturbated with lighter sl. green grey bands, highly calcareous, glau, sl pyritic.			
UPPER JURASSIC	KIMBERIDGE CLAY	70				MUDSTONE, pale sl. greeny grey, mottled, pyrite and glauconite. Brownish, soft, nodules phosphatic			
						MUDSTONE, dark greenish grey, uniform, non calcareous, bioturbated, pyritic mudstone acicular crystals ? sclerite along bedding planes. rare broken bivalves.			
		80				MUDSTONE, very dark grey-black, silty, hard wood, fragrant, bituminous smell, bioturbated greenish olive bands cement stones v. intensely bioturbated grades in colour from light to dk bands. Fossiliferous.			
		90				MUDSTONE, dk grey-black, hard, fossiliferous, calc. bands. Pyrite trails hydrocarbon smell.			
		100				MUDSTONE, as above, v. fossiliferous with large crushed ammonites			
						END OF BOREHOLE			
<div> <div>INSTITUTE OF GEOLOGICAL SCIENCES</div> <div>AREA CALIFORNIA</div> <div>SUMMARISED BOREHOLE LOG</div> <div> <div>Ref.</div> <div>54/00/595</div> </div> <div> <div>Author</div> <div></div> </div> </div>									

Borehole No	81/45	Area	CALIFORNIA	Block No	42 - 4
Latitude	54° 59.886' N	I.G.S. Reg. No. 54/00/596			
Longitude	0° 36.522' E	Water Depth 68.5-71.4m Rig Mariner			
Other Position Fixing Methods		Objectives To core the Tertiary.			
MAIN CHAIN DECCA		Spud Date 12.9.81		Completion Date 13.9.81.	
		Status Completed		Final Depth bs.b. 66.20m	

	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
QUATERNARY	RECLNT					<p>SAND, olive grey, med-fine, quartzose, med well sorted, coarse lithic grains</p> <p>CLAY, dk grey to dk brownish grey, clastic to lim of chalk, med-brown, silt stone silty & sandy in part.</p> <p>SAND and CLAY, as above.</p>			
		10				<p>CLAY, pebbles of chalk, soft calc.</p> <p>SAND, olive, shaly, mostly v. fine calc.</p> <p>CLAY, reddish-brown, firm sandy, shaly.</p> <p>CLAY, grey-brown, firm, finely, micaceous sl. calc.</p> <p>CLAY, as above, with sandy laminae thick walled bivalves</p> <p>CLAY, red-brown, pebbly.</p> <p>CLAY, sandy, greenish grey, tr. glauc bivalves.</p> <p>CLAY and Pebble Bed, well rounded black pebbles of sandstone, flint, ironstone in matrix of greenish grey clay.</p> <p>SAND, greenish grey, very clayey, micaceous, glauconitic, laminated, firm non calcareous.</p> <p>SILT, greenish grey, firm, micaceous glauconitic, with clay laminae</p> <p>SILT, as above</p>			Ironstone nodule.
TERTIARY (?Late Eocene)		20				<p>SILT, and clay as above,</p> <p>CLAY, and silt, some dark brown bands.</p> <p>CLAY, as above.</p>			
		30				<p>CLAY, as above, silty, micaceous metal. pyrite common, pyritized nodules at base</p> <p>CLAY, as above, woody fragments, plant debris, waxy texture.</p> <p>CLAY, as above, some darker laminae.</p> <p>CLAY, as above, laminated.</p>			
		40							
		50							

	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
TERTIARY		50							
		60				CLAY, as above with plant fragments to granule sized pebbles.			
		TP 66.20				CLAY, as above, dark greenish grey non calc. sl. glauconitic, micro- micaceous, silty, quartzose sand			
		70				END OF BOREHOLE			
		80							
		90							
		100							

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

AREA CALIFORNIA

SUMMARISED BOREHOLE LOG

Ref.	Author
54/00/596	

IGS 1284 1000 1/75

Borehole No		81/46A		Area		CALIFORNIA		Block No		42 - 3									
Latitude				54° 59.99'N				IGS. Reg. No.				54/00/597							
Longitude				0° 32.275'E				Water Depth				64.4-68m RIG MARINER							
Other Position Fixing Methods				Objectives								Stratigraphic							
MAIN CHAIN DECCA				Spud Date				15.7.81				Completion Date				17.9.81			
				Status				COMPLETED				Final Depth bs.b.				151.8m			

	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
QUATERNARY						<u>SAND</u> dark olive grey, very fine, calcareous		Gamma	Quaternary (Surface - 25m) Eocene (25-107m) Palaeocene (107-139m) late Campanian to early Maastrichtian (139m - end)
		10				<u>CLAY</u> dark brown grey, sandy, hard, calcareous.			
TERTIARY (?Eocene)		20							
		30				<u>CLAY</u> greenish grey to dark grey, silty, laminated, glauconitic, becomes harder downwards.			
		40							
		50							

	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palæo	Lithological Description	Casing	Electric Logs	Remarks
TERTIARY		110							
		120				<u>Mudstone</u> , dark grey-brown, hard calcareous bands. Sandstone at base.			
CRETACEOUS		140				<u>Chalk</u> , white.			
		150							
		160				END OF BOREHOLE			

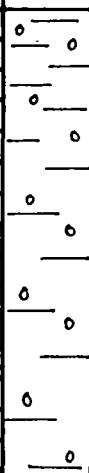
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 SUMMARISED BOREHOLE LOG
 Ref. 54/00/597 Author


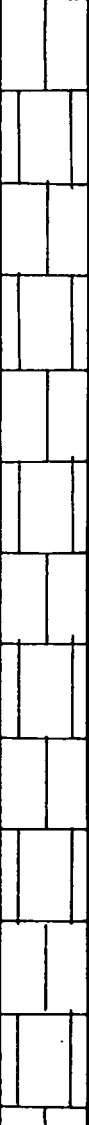
Borehole No	81/47	Area	CALIFORNIA	Block No	42/22
Latitude	54° 16.586'N	I.G.S. no 54/00/598			
Longitude	0° 23.168'E	Water Depth	62m	Rig	MARINER
Other Position Fixing Methods	Objectives To core the Upper Jurassic				
MAIN CHAIN DECCA		Spud Date	18.9.81	Completion Date	19.9.81
		Status Completed	Final Depth bs.b. 32.3m		

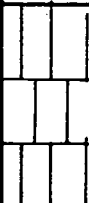
System	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
UPPER JURASSIC (KIMMERIDGIAN)	KIMMERIDGE CLAY		NO RECOVERY						
		10				MUDSTONE, dk grey to black, non-calcareous, silty, lignite fragments of micaceous. MUDSTONE, black, fossiliferous, calc. shaly. LIMESTONE, grey, hard, argillaceous fossiliferous. MUDSTONE, dark grey-black, hard, calcareous with thin harder bands, carbonaceous fragments, fossiliferous. LIMESTONE as above. MUDSTONE, as above.			
		20				MUDSTONE, dark-grey, fissile, calcareous, silty, micaceous, v. fossiliferous, carbonaceous fragments on bedding planes. MUDSTONE, as above.			
		30				MUDSTONE, as above			
		40				END OF BOREHOLE			
		50							

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Borehole No	82 / 18, 18A	Area	CALIFORNIA	Block No	42 / 6
Latitude	54° 42.55' N	IGS REGISTRATION NUMBER +54 / +00 / 621			
Longitude	00° 04.98' E	Water Depth	62 m	Rig	FERDER
Other Position Fixing Methods	HAW CHAN DECCA AND SATELLITE NAVIGATION		Objectives	STRATIGRAPHIC	
			Spud Date	21 - 8 - 82	Completion Date
			Status Completed	Final Depth bs.b. 16.9 m	

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
QUATERNARY DEVENSIAN		0 10 20 30 40 50				Clay, dark grey brown, stiff, silty, sandy, calcareous towards base, with cobbles and pebbles. (Till) Calcarenite, very hard, oolitic subangular calcite sand grains, microcrystalline matrix, local shell clasts, crinoids trace of stylolites and mica. T.D. 16.9 m			
UPPER JURASSIC	CORALLIAN								

Borehole No 82/19		Area CALIFORNIA		Block No 42/8					
Latitude 54° 47' 49" N		IGS REGISTRATION NUMBER +54/+00/622							
Longitude 00° 34' 13" E		Water Depth 72.8 m		Rig Ferder					
Other Position Fixing Methods		Objectives Stratigraphic							
MAIN CHAIN DECCA AND SATELLITE NAVIGATION		Spud Date 23-8-82 Completion Date 24-8-82							
		Status COMPLETED Final Depth bs.b. 55.05m							
Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
QUATERNARY						Sand, clean, fine grained with shell sand and gravel. Clay, olive grey, stiff, with scattered clasts of chalk and other pebbles, strongly calcareous. (Till)			Age - Holocene (surface - 2.4m) Age - Pleistocene (2.4 - 14m) Age - Upper Campanian (14m - end)
						Chalk, white, with angular flints; local hard grounds			
UPPER CRETACEOUS									
UPPER CAMPAIAN									

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
UPPER CAMPANIAN		50				Chalk, as above, with bands of pale grey limestone, hard bioturbated, partings of pale grey marl. T.D. 55.05 m			
		60							
		70							
		80							
		90							
		100							

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AREA CALIFORNIA

SUMMARISED BOREHOLE LOG

Ref. 82/19	Author
+54/+00/622	

Borehole No	82/20	Area	CALIFORNIA	Block No	43/28
Latitude	54° 06.05' N	IGS REGISTRATION NUMBER		+54/+01/190	
Longitude	01° 29.88' E	Water Depth	69 m	Rig	FERDER
Other Position Fixing Methods		Objectives STRATIGRAPHIC			
MAIN CHAIN DECCA AND SATELLITE NAVIGATION		Spud Date 25-8-82 Completion Date 26-8-82			
		Status COMPLETED Final Depth bs.b. 50.0 m			

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
QUATERNARY						Sand and gravel			Age - Recent and Pleistocene (surface - 3.7 m)
						Clay, dark greenish grey, stiff, non-calcareous, lenses and beds of calcareous silt.			Age - Lower Pleistocene / Pliocene (3.7 - 23.2 m)
UPPER CRETACEOUS - CENOZOIC	CHALK GROUP	10							Age - Palaeogene (23.2 - 23.5 m)
		20				Sand, greenish grey, glauconitic, fine grained.			Age - Upper Cretaceous (23.5 m - end)
		30				Mod, dark green grey, very sandy, stiff. Chalk, white, soft, with flints and local hard grounds.			
UPPER CRETACEOUS - CENOZOIC	CHALK GROUP	40							
		50				Chalk, as above, with bands of green marl, and band of hard black shale, carbonaceous and calcareous.			

Borehole No	82/21	Area	California	Block No	43/30
Latitude	54° 03' 69" N	JCS REGISTRATION NUMBER		+54/ +01/ 191	
Longitude	01° 58' 96" E	Water Depth	67.1 m	Rig	Ferder
Other Position Fixing Methods		Objectives Stratigraphic			
Main Chain Decca and Satellite Navigation		Spud Date 26-8-82 Completion Date 28-8-82			
		Status Completed Final Depth bs.b. 91.2 m			

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
QUATERNARY EARLY PLEISTOCENE						Sand, dark olive grey, fine grained, shell sand and gravel.			Age - Lower Pleistocene - Holocene (Surface - 41.6m)
						Interbedded fine sand and silty clay, grey scattered shells.			Age - Lower Pleistocene (41.6 - 28.5m)
		10							Age - (?) M/U Eocene (28.5m - end)
		20							
		30				Clay, grey, stiff, calcareous, laminae of strongly calcareous silt or sand.			
		40				Sand, olive, fine grained, muddy, trace of glauconite. Clay, dark grey to olive green, stiff heavily bioturbated, silt laminae, glauconitic towards base.			
		50							

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
QUATERNARY Early Pleistocene		50				Sand, olive grey, muddy, fine grained, strongly calcareous, glauconitic, bioturbated.			
		60							
Late Eocene		70				Sand, as above, with stiff calcareous clay, scattered shells. Clay, dark grey, stiff, calcareous, laminæ of sand and silt, glauconitic.			
		80							
		90				Silt, brown, firm, mica, glauconite, rare shells. T.D. 91.2 m.			
		100							

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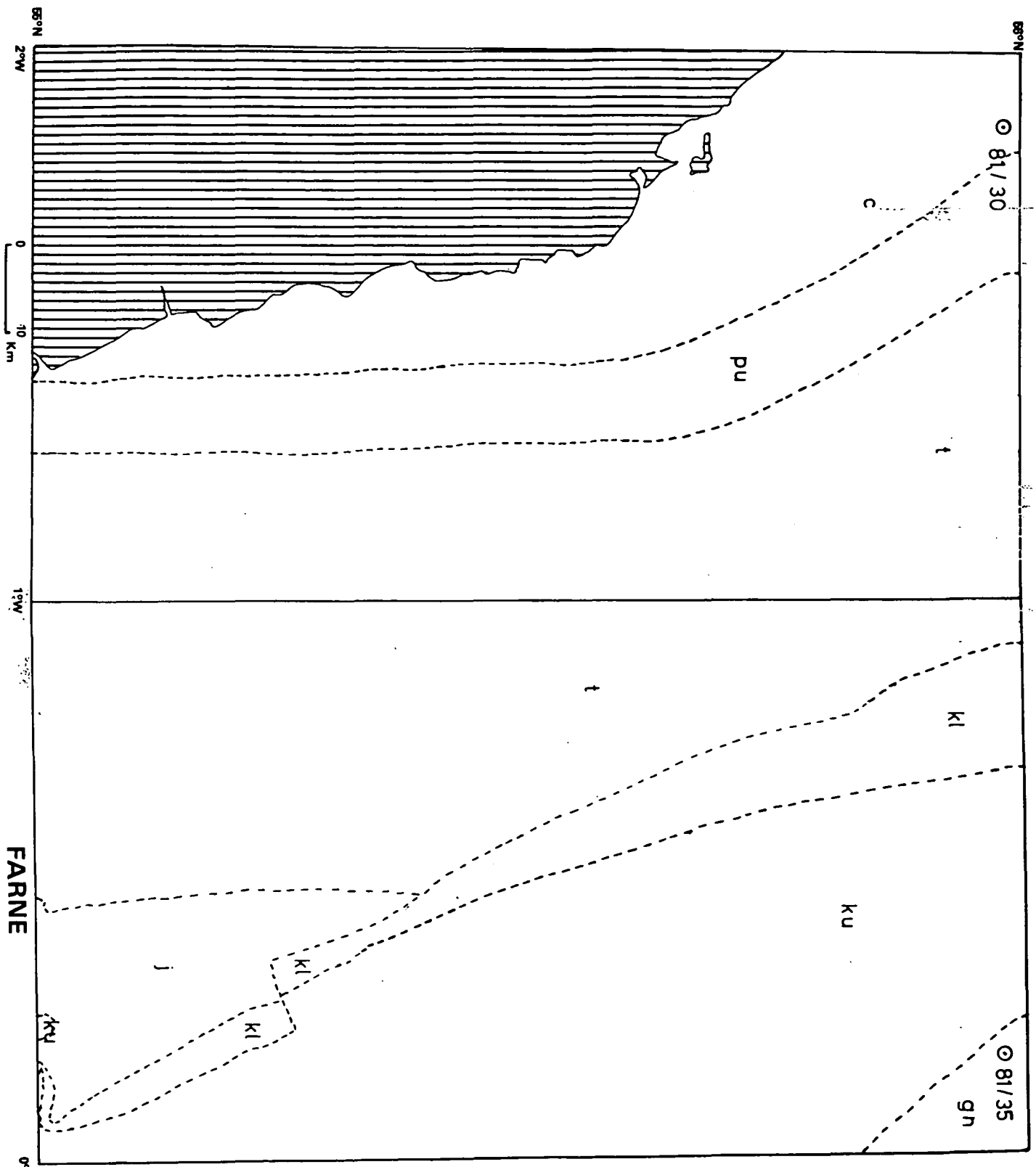
SUMMARISED BOREHOLE LOG

Ref. 82/21

Author G.K. LOTT

+54/+01/191

fig 25



Borehole No	81 / 35	Area	F A R N E	Block No	35 - 5
Latitude	55° 58.79' N	I.G.S. regd No		55/07/41	
Longitude	0° 10.02' W	Water Depth	84 m	Rig	MARINER
Other Position Fixing Methods	Objectives		Stratigraphic		
SAT NAV		Spud Date	26.8.81	Completion Date	27.8.81
Dacca Mainchain		Status	Completed Final Depth bs.b. 88.4 m		

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palaeo	Lithological Description	Casing	Electric Logs	Remarks
TERTIARY		10				<u>SAND</u> olive grey, fine, clayey, poorly sorted, shell fragments near top, occasional pebbles, glauconite			
		20							
		30				<u>CLAY</u> dark grey, with pods, lenses and beds of dark grey fine sand.			
		40				<u>SAND</u> gray, medium, glauconitic			
		50							

Age	Form ⁿ	Depth Drilled m	Graphic Log	Cores	Palæo	Lithological Description	Casing	Electric Logs	Remarks
T E R T I A R Y		50				<u>SAND</u> , grey medium, glauconitic lignite rich bands towards base.			
		60							
		70				Interbedded sandy silt and clay.			
UPPER CRETACEOUS		80				<u>CHALK</u> , white, crumbly.			
		90				END OF BOREHOLE			
		100							

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AREA F A R N E

SUMMARISED BOREHOLE LOG

Ref:

Author

55/01/41

M. Parkin

ACKNOWLEDGEMENTS

The compilers would like to acknowledge the assistance given by colleagues in the Marine Geology Unit, who provided information for this report.

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